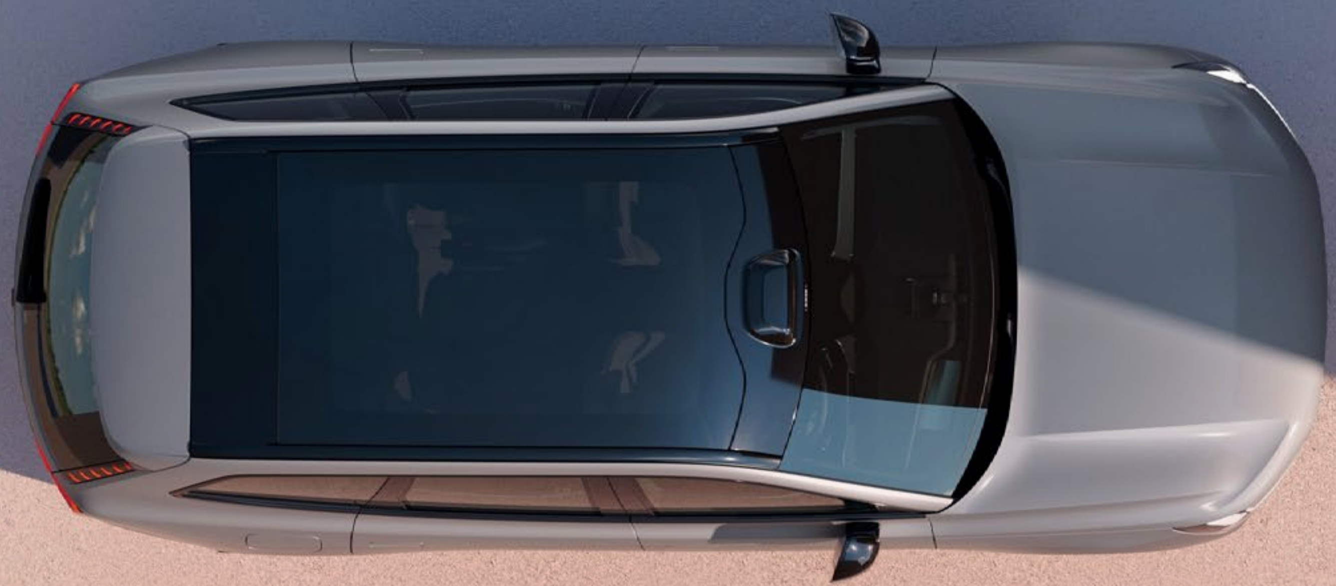
VOLVO

*For life. To give people freedom to move in a personal, sustainable and safe way.*

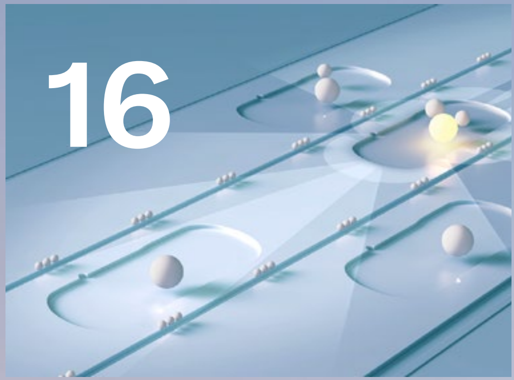


**VOLVO CAR GROUP**

ANNUAL AND SUSTAINABILITY REPORT 2022

CEO COMMENT


OUR BLUEPRINT





SUSTAINABILITY



Volvo Car Group's formal Annual Report is presented on pages 47–58, 76–132 and 137–144, and has been audited by the Group's auditors.
The Sustainability Report can be found integrated in this report on pages 38–46 and 148–196. The auditors have performed a limited assurance engagement of the Sustainability Report.

## A FOCUSED LINE-UP

Volvo Cars has a focused portfolio of premium cars offering a chargeable alternative for each model. Since 2020, all our new models have been fully electric. The latest addition was the Voivo EX90, a fully electric large SUV.

### SUV / XC

EX90


XC90


XC60


XC40


### WAGON / V

V90


V60


### SEDAN / S

S90


S60


### CROSSOVER / C

C40


Fully electric
Plug-in hybrid
Internal combustion engine

# *For Life. To give people freedom to move in a personal, sustainable and safe way.*

## SAFE.

For over 95 years, we have been dedicated to this word. Because we believe that: safe is the silent partner to progress, to greatness. It helps us to think differently and to be different. Feeling safe makes us push ourselves. To be ourselves. To challenge ourselves. Because when you feel safe, you can truly live life freely. You can dive into the unknown.

It is this belief that drives us to be Volvo. Found around the globe, but proudly Swedish. Rich in heritage, connected to today, curious of tomorrow. Small yet mighty and driven by bold ambitions. We do not need to be flashy and loud, for we are humble and confident. Our innovations have saved a million lives and we are working on a million more. Our commitment to our home planet is not just a passing fad or a goal so far away you will forget we made it. We will not nor cannot stop there.

Because just keeping people alive is not enough. We need to help people come to life. Therefore, our mission is to protect what is important: Lives, Life, Living. We aim to be the pioneers in the protection of people and planet. Because that is what pioneers do. We set our sights to the seemingly unattainable and run towards it.

That is why safe for us is, and always will be, the most important word of all. And why we will continue to devote ourselves to it.

For you, for your loved ones. For the planet around us.

**FOR LIFE.**

### PERSONAL – FOR LIFE

Life is precious. So is living. That is why Volvo helps people come to life and live life freely. We celebrate individuality and the freedom to be you. We want to make life easier and to help you save them time and stress. To enable joy and peace of mind. Volvo comes from Sweden after all, a place that believes quality of life is as important as being alive itself.

### SUSTAINABLE – FOR LIFE

We do not only protect people in and around our cars. We also work hard to protect the planet we live on. We commit to the highest standard of sustainability in mobility to protect the world we all share. We want to keep the world around our cars as safe as the people in them.

### SAFE – FOR LIFE

In 1927 our founder stated "Cars are driven by people. The guiding principle behind everything we make at Volvo, therefore, is and must remain, safety". This principle made our brand synonymous with safety and is today as relevant as ever before. We will continue to pioneer the safest, most intelligent technology solutions in mobility and everyday life to protect what is important to people. Their lives, and the lives they are living.

# Combining a global perspective with local presence

Volvo Cars is one of the world's best known premium automotive brands, serving customers in over 100 countries.

Founded in 1927 in Gothenburg, Sweden, our company has expanded production onto three continents in the near century of its existence. Being close to our customers reduces operational risk, as well as our environmental footprint, and allows us to form long-term relationships on an individual basis.

Our global headquarters is located in Gothenburg, with R&D and design centres in Gothenburg, Shanghai and Camarillo.

- HQ/R&D/Design/Production
- Regional HQ/R&D/Design
- Design
- Production
- Tech Hub

**AMERICAS** ~ 2,000 employees

**USA**
- Mahwah, NJ
  – Americas Headquarters
- Charleston, SC
  – Car Production
- Camarillo, CA
  – Design Centre

**EMEA** ~ 29,000 employees

**Sweden**
- Gothenburg
  – Global Headquarters
  – R&D
  – Design Centre
  – Car Production
- Stockholm
  – Tech Hub
- Lund
  – Tech Hub
- Olofström
  – Body Components
- Skövde
  – E-motors
- Floby
  – Body components

**Belgium**
- Ghent
  – Car Production

**APAC** ~ 12,000 employees

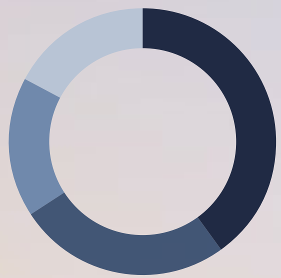
**China**
- Shanghai
  – APAC Headquarters
  – Regional R&D and Design Centre
- Chengdu
  – Car Production
- Daqing
  – Car Production
- Taizhou
  – Car Production

**Singapore**
- APEC Offices

**India**
- Bangalore
  – Tech Hub

*Owned assembly factory in Kuala Lumpur, Malaysia and contract assembly in Bangalore India.*

**RETAIL DELIVERIES PER MARKET**



- Europe 40%
- China 26%
- Other 17%
- US 17%

**~615,000**
RETAIL DELIVERIES

**3**
REGIONS

**+100**
SALES IN COUNTRIES

**~2,500**
RETAIL PARTNERS

**~43,000**
EMPLOYEES

# Leading the way in transformation

Volvo Cars' values resonate with the attitudes of society. Our strategy is geared for rapid growth through transformation into a fully electric brand with direct consumer relations.

We are leading our transition towards production of zero tailpipe emission cars, through design and innovation, a key factor in tackling climate change. By the middle of the decade, we aim for all-electric cars to account for 50 per cent of our global sales and 100 per cent by 2030. With these ambitions, we are connecting with the fastest-growing segment of the fully electric market. We also aim to expand our portfolio and for growth in existing segments.

Our next generation of cars will be built on new electric architectures, dedicated for electric cars. It is our ambition to increasingly develop software within core business areas. Our new architecture with core computing, which will be launched with our Volvo EX90, is designed to accommodate software updates over the air and continuous improvements over the lifecycle of our cars.

Building direct relationships with our customers is a fundamental part of our transformation, with online and direct sales as an enabler. We aim to build direct connections with our customers and form long-term relationships. We will continue to work with retail partners, who significantly contribute to the overall customer experience. Our retailers will remain responsible for a variety of services, such as guiding customers through the sales process, as well as the preparation, delivery and servicing of our cars. We aim to provide a seamless and integrated customer experience, meeting customers however and whenever they choose. It is also our ambition to provide wider access to mobility by offering subscription and sharing options.

In order to accelerate our transformation, we seek technological partnerships within the Geely ecosystem and with external parties. Effective partnerships are integral to the collaborative, consumer-driven culture of our company.

**MID-DECADE AMBITIONS**

**1.2M** UNITS SOLD

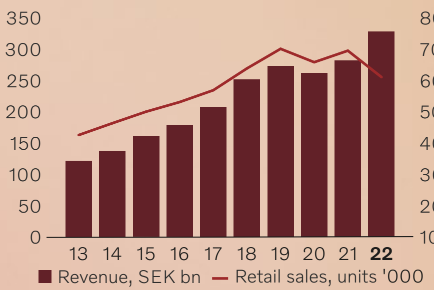
**50%** FULLY ELECTRIC SALES

**50%** ONLINE SALES

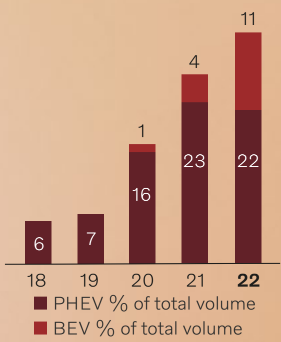
**8–10%** EBIT MARGIN

**40%** $CO_2$ REDUCTION PER CAR

**TEN YEARS OF STRONG GROWTH**




**ACCELERATING SHARE OF RECHARGE, % OF SALES**



Acceleration of our strategic journey

**11%** FULLY ELECTRIC | **22%** PLUG-IN HYBRIDS | **615k** RETAIL SALES

# 2022 in brief

In 2022, we faced a blend of interconnected headwinds, from rising inflation and higher interest rates to disruptions in supply chain and logistics. Despite that, 2022 was a pivotal year and marked an acceleration of Volvo Cars' strategic journey.

## Events 2022

- On 21 March, Jim Rowan succeeded Håkan Samuelsson as the President and CEO of Volvo Cars.
- Volvo Cars and Northvolt announced the establishment of a new battery plant in Gothenburg, Sweden as part of a SEK 30 bn investment in battery research & development and manufacturing.
- Volvo Cars announced investments of SEK 10 bn in Torslanda plant in Sweden into technologies for next generation electric models such as mega casting.
- Volvo Cars held the first Annual General Meeting as a listed company in Gothenburg on 11 May.
- Polestar, our strategic affiliate, was successfully listed on Nasdaq Stock Exchange in New York with first day of trading on 24 June.
- Volvo Cars adjusted its organisation; former Chief Financial Officer Björn Annwall, was appointed Chief Commercial Officer and deputy CEO while Johan Ekdahl, previously Head of Global Accounting and Group Reporting, was appointed acting Chief Financial Officer. Further Javier Varela was appointed Chief Operating Officer and deputy CEO.
- Volvo Cars announced the establishment of an electric car manufacturing plant in Slovakia to support its growth ambitions.
- Volvo Cars appointed Johan Ekdahl as Chief Financial Officer.
- Volvo Cars revealed the Volvo EX90, a new fully electric SUV on 9 November.
- Volvo Cars held its first Capital Markets Day on 10 November.
- The inauguration of the latest Tech Hub took place in Stockholm on 8 December.
- Volvo Cars executed on its strategic ambitions with divestment of its holding in Aurobay to Geely Holding.
- Volvo Cars took full ownership of Zenseact.

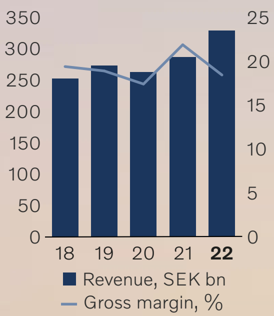
## Events after the year-end

- Volvo Cars acquired by way of appropriation 100 per cent of the shares in Taizhou Luqiao Jijin Automobile Manufacturing Co., Ltd. on 6 January 2023.
- Volvo Cars placed an inaugural green bond transaction in the SEK market in February 2023.

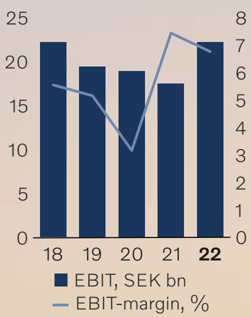
# All-time high revenue despite a decline in total retail sales

- Retail sales decreased by 12 per cent to 615.1 (698.7) thousand cars.
- Revenue increased by 17 per cent to all-time high SEK 330.1 (282.0) bn, despite supply constraints, logistics issues and COVID-related lockdowns throughout the year.
- Operating income (EBIT) was SEK 22.3 (20.3) bn, negatively affected by cost increases from raw materials, spot purchasing of semiconductors and logistics, offset by positive mix effects and strong price realisation, as well as accounting effects from the listing of Polestar. Operating income excluding share of income in JVs and associates was SEK 17.9 (21.2) bn.
- EBIT margin was 6.8 (7.2)%. EBIT margin, excluding share of income from joint ventures and associates, was 5.4 (7.5)%.
- Basic earnings per share was SEK 5.23 (4.72).
- Operating and investing cash flow was SEK –6.1 (–4.9) bn, mainly impacted by strong EBITDA offset by working capital and shareholder loans to Aurobay.
- Average lifecycle $CO_2$ emissions per vehicle were reduced by 14.8 per cent compared with the 2018 level. This is supporting our ambition to reach 40 per cent reduction by 2025.
- The Board of Directors proposes that no dividend should be paid out. Volvo Cars will focus its resources on delivering transformation and profitable growth strategy.

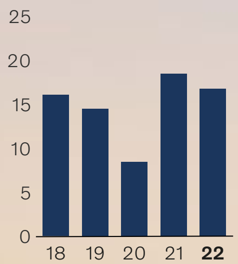
**REVENUE AND GROSS MARGIN**




**EBIT AND EBIT MARGIN (BN SEK/%)**

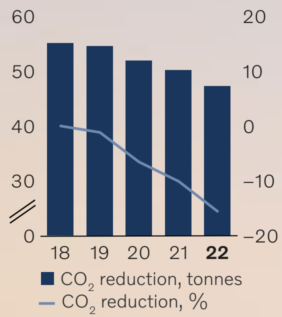



**RETURN ON INVESTED CAPITAL, ROIC (%)**




Invested capital is calculated on two-year average figures.

**TOTAL $CO_2$ PER VEHICLE REDUCTION, SINCE 2018 (BASELINE)**




| **KEY FIGURES FINANCIALS** (SEKm) | **2022** | 2021* | 2020** |
|---|---|---|---|
| Retail sales, units | 615,121 | 698,693 | 661,713 |
| Revenue | 330,145 | 282,045 | 262,833 |
| Research and development expenses | –11,514 | –12,714 | –11,362 |
| Operating income (EBIT) | 22,332 | 20,275 | 8,036 |
| Operating income (EBIT) excl. share of income from JVs & associates | 17,889 | 21,226 | 8,388 |
| Net income | 17,003 | 14,177 | 7,308 |
| Basic earnings per share, SEK | 5.23 | 4.72 | 2.19 |
| EBITDA | 38,423 | 35,280 | 22,578 |
| Cash flow from operating activities*** | 33,658 | 29,852 | 34,890 |
| Cash flow from investing activities*** | –39,552 | –34,737 | –21,608 |
| Net cash | 38,061 | 44,846 | 35,241 |
| Gross margin, % | 18.3 | 21.6 | 17.5 |
| EBIT margin, % | 6.8 | 7.2 | 3.1 |
| EBIT margin excl. share of income from JVs & associates, % | 5.4 | 7.5 | 3.2 |
| EBITDA margin, % | 11.6 | 12.5 | 8.6 |
| Return on invested capital, ROIC, % | 16.7 | 18.6 | 7.9 |

*In 2022, there has been a change in the elimination of internal profit related to sale of digital services within the Group. This change has resulted in a decrease of cost of sales, research and development expenses and selling expenses against an increase of administrative expenses. The figures for 2021 have been adjusted accordingly. The reclassification has no impact on EBIT.
**Adjustments have been made to the prior period presented. For more information see Note 10 Government grants.
***In 2021, dividends received from joint ventures and associates were reclassified from Investing to Operating activities and the comparative figures for 2020 have been adjusted accordingly.

| **KEY FIGURES SUSTAINABILITY** | **2022** | 2021 | 2020 |
|---|---|---|---|
| *Climate Action* | | | |
| Total $CO_2$ emission reduction per vehicle[1,2,3] (baseline 2018), % | –14.8 | –9.5 | –6.0 |
| Fully electric vehicles (BEVs) sold, % | 10.9 | 3.7 | 0.7 |
| Energy usage reduction per vehicle in manufacturing[8,11,21] (baseline 2018), % | –13 | –7 | –12 |
| *Circular Economy* | | | |
| Production waste reduction per vehicle [8,11,21] (baseline 2018), % | –16 | 1 | –2 |
| Water usage reduction per vehicle in manufacturing[8,11,21] (baseline 2018), % | –30 | –23 | –8 |
| *Ethical and Responsible Business* | | | |
| Employee engagement | 76 | 76 | 75 |
| Women in Senior Leadership[30] (%) | 29.6 | — | — |
| Injury rate (LTCR) employees**** | 0.07 | 0.06 | 0.10 |

**** Injury rate (LTCR) is defined as the number of work and occupational accidents reported with at least one day sick leave, divided by hours worked and multiplied by 200,000.
For Sustainability definitions and reporting principles see page 194–196.

# *2022: Accelerating our strategic journey and navigating challenges*

2022 was a year filled with challenges for the global automotive industry. We faced a blend of interconnected headwinds, from rising inflation and higher interest rates to disruptions in supply chain and logistics. Prices of battery materials, especially lithium, saw a dramatic increase during the year which significantly increased production costs for fully electric vehicles. Further, the tragic war in Ukraine that started in February last year, in combination with energy costs, underlying inflation and the ongoing impacts of COVID-related lockdowns took a heavy toll on the global economy. The premium automotive industry, though less affected compared to the rest of the sector, was also caught by these headwinds.

For Volvo Cars, the prolonged supply constraints, lockdowns in China and the elevated material and logistics costs affected our performance. Despite that, we managed through the heavy turbulence and made significant progress on our strategic ambitions as we accelerated towards our aim to become a fully electric car company by the end of the decade and climate neutral by 2040. Already by mid-decade we aim to reach a 50 per cent global sales share of fully electric Volvo cars, with a 40 per cent lower carbon footprint per car and profitability of 8–10 per cent. We remain steadfast on that strategic journey. The nimble organisational structure we put in place during the year further allows us to be fully focused on execution and transforming with clarity and speed.

In 2022, the performance of our fully electric cars stands out as a real highlight. Sales of our electric cars more than doubled compared to the previous year, resulting in ending the year with 11 per cent of sales attributed to EVs, compared to 4 per cent in 2021. This includes strong performance in our sales of EVs in the fourth quarter, reaching the highest point ever at 18 per cent, compared to 6 per cent in the same period last year. This is despite overall sales being affected by production constraints.

Our electrification strategy has been justified by the emerging industry trend. During the year, sales of fully electric cars across the industry increased 59 per cent whereas sales of internal combustion engine (ICE) cars declined 13 per cent*. In the same time frame, sales of fully electric Volvo cars grew 159 per cent, resulting in a significant growth in our market share in the fully electric segment.

One important milestone for the year was the global reveal of the all-electric Volvo EX90 in Stockholm. With this we took a decisive step towards the future. It is not only the safest Volvo car ever built, but its core computing architecture represents the technological transformation underway in our cars. Starting with the Volvo EX90, our next generation of fully electric cars, will be based on our new core compute architecture, embedded with Volvo Cars' software. This will enable technology tailored for our customers' needs and protection, fortifying our position as a leading premium electric car brand.

During the year, we also became the first carmaker to fully exit the development and manufacturing of internal combustion engines with the decision to sell our remaining stake in the powertrain company Aurobay. With this strategic move, we can focus our investments and capital allocation on developing high performance fully electric powertrains.

In line with this, we took the decision to set up one of Europe's largest battery cell plants in a joint venture company with Northvolt. We are also investing in developing e-motors and inverters in-house, along with our own unique battery management software. These concrete actions will take us closer to controlling the value chain of sustainable battery technology in our next generation of fully electric cars, towards reaching our 2030 ambition of selling only electric cars.

*The industry and market share numbers are for the January–December 2022 period. For more details, see page 14 of the report.

Another step we took towards our transformation was the announcement of our third European car plant in Slovakia. The new state-of-the art manufacturing plant, that will build the company's next generation of pure electric cars, is designed to be a leader in sustainable and efficient premium electric car production.

In 2022, our strategic affiliate Polestar reached the important milestone of getting listed on the Nasdaq New York Stock Exchange, despite the volatile capital markets. This marks an important proof point in our ambition to establish Polestar as a standalone brand and allows for an accelerated technology development and value creation for the two companies that can operate synergistically in the expanding EV market.

## 2023

While 2023 looks to be another challenging year, we are hopeful that we continue to see steady improvement in the supply of semiconductors. In addition, we are optimistic that the price of lithium will start to decline towards the end of the year, in line with many of the independent reports recently published. Despite, the global turbulence, uncertainty and our recent price increases, we continue to see healthy demand for our cars. As ever, we continue to closely monitor the external environment and adapt accordingly.

To partially help offset increased costs, we have recently reinforced a comprehensive cost and efficiency optimisation plan across the organisation. This is aimed at delivering on our strategic ambitions with better utilisation and optimisation of resources. It is clear now that uncertainty and volatility are the inescapable business realities of today and therefore creating a more cost aware culture is a key building block for the future.

*"2023 will be a pivotal year as we further accelerate on that transformation path."*

So, if 2022 marked the acceleration of our strategic journey in the face of unprecedented global disruption, 2023 will be a pivotal year as we further accelerate on that transformation path. We will launch our new small fully-electric SUV during the year, which will take us to a new demographic, and start production of the Volvo EX90. This year, we will also transform UK from a traditional wholesale business to become direct consumer facing with seamless consumer experience and national pricing. NOVO Energy, our JV company with Northvolt, will take a crucial step towards developing sustainable battery technology with the start of construction of one of Europe's largest battery cell plants in Gothenburg.

We expect a solid double-digit growth in retail sales during this year, provided there are no unexpected supply chain disruptions. We intend to continue increasing our volumes for fully electric cars in 2023, taking the full year share higher than last year's share of 11 per cent.

In conclusion, we have demonstrated in 2022 that we have turned up our execution engine to deliver strong performance on fully electric cars with a double-digit share in volumes. We launched the Volvo EX90 on a new electric-only platform with industry leading LiDar technology, exited investments in combustion engine technology to focus fully on developing high-performance electric powertrains, announced our JV with Northvolt in our efforts to control the future battery technology, increased direct sales and ensured the listing of Polestar.

This execution engine will continue to deliver in 2023.

**Jim Rowan**
President and Chief Executive Officer

# A FAST-CHANGING WORLD

# Our purpose and values are of increasing relevance to our consumers

We are a company led by our purpose, vision and ambition. We believe that our purpose meets the hopes and aspirations of our consumers. Our transition to direct sales and close consumer relationships is driven by their needs and desires.

## What consumers want

**SAFETY**
Protection for individuals, their loved ones and society as a whole, in both a physical and digital context

**HUMAN CENTRIC TECHNOLOGY**
Technological innovation that offers clear customer benefits, is helpful, easy to understand and user friendly

**RESPONSIBILITY**
Taking environmental and social responsibility through reducing carbon emissions, conserving resources and conducting business responsibly

**PRAGMATIC SOLUTIONS**
Convenience, products and services with real-world applications

## Volvo Cars' Purpose

**FOR LIFE**

PERSONAL

SUSTAINABLE

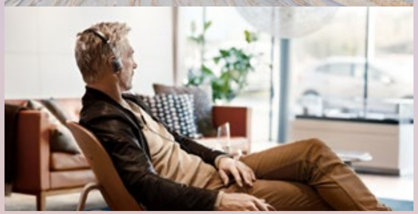
SAFE

## Trends in society

**CLIMATE EMERGENCY**
Recognition of the need to address climate change and take urgent action

**REDEFINED REQUIREMENTS**
Changing attitudes to car ownership and increased demand for alternatives

**TECHNOLOGICAL BREAKTHROUGHS**
Challenging social, economic and political structures



**REDEFINED ASPIRATIONS**
Priorities and values that are changing perceptions of premium quality

# Industry in rapid transformation

In a period of transition, there are clear opportunities for car manufacturers to make a difference, both in terms of technological innovation and business models. The choice is clear; be part of the problem or become part of the solution. Volvo Cars is well positioned to strengthen its market position by pursuing progressive change and building on its strong brand values.

**21%**

EXPECTED FULLY ELECTRIC ANNUAL GROWTH RATE 2022–2027*

**106%**

INCREASE IN AMOUNT OF FULLY ELECTRIC CAR MODELS IN THE MARKET BETWEEN 2019–2022*

* LMC Global Hybrid & Electric Vehicle Report, Q4 2022

The automotive industry is currently in a period of profound change, with new demands from consumers, governments and society as a whole. Addressing climate change is imperative, including through the rapid phasing out of internal combustion engines. Shifts in consumer preferences and broader public opinion require manufacturers and retailers to radically re-evaluate.

Companies from outside our industry are entering the market with approaches that challenge the traditional role of car makers. We will retain our competitive advantage by constant evolution, seeking new business opportunities and our commitment to providing more sustainable mobility.

As a premium brand, we are witnessing a clear change in consumer perspective. Perceptions of premium quality are increasingly based on progressive plans for electrification, advanced technology, connectivity and consumer experience. As demand for electric cars dramatically increases, we are well positioned in the fastest-growing segment of the market.

## Electrification

Global responses to the climate emergency are resulting in legislation that has direct consequences for the automotive industry. This trend is driving progress towards more sustainable mobility and a significant increase in electric car production. The EU has decided to ban sales of new combustion engine cars from 2035, with the aim of eradicating tailpipe emissions from newly manufactured cars and vans. This trend is also evident in the US and China, with initiatives in place to phase out internal combustion engine cars. In many countries, incentives have been introduced to accelerate electrification and boost both production and sales of electric cars. Charging infrastructure is also expanding.

Attitudes to electric cars are undergoing a major shift as the realities of climate change, as well as urban air pollution, cause more consumers to see emissions and environmental impact as personal responsibilities. In some cases, consumer demand for electrification is more advanced than the charging infrastructure and technology to enable its widespread adoption. Within this context, there is vast potential to satisfy the growing public appetite and make a significant contribution to wider global issues.

### CHARGING INFRASTRUCTURE – KEY FOR ELECTRIC CAR ADOPTION

For over a century, motorists around the globe have been used to simply driving into a gas station, checking the going rate for their fuel of choice, filling up their tank and continuing their journey. We believe it should be just as easy and convenient to charge and pay for charging when consumers are to widely adopt all-electric cars.

### Attitudes to car ownership experience

Manufacturers and retailers are experiencing growing demand for alternatives to traditional car ownership, especially among younger consumers. Access and convenience, through leasing or sharing schemes, are valued by some customers more highly than direct ownership. Subscription-based models, such as Care by Volvo, offer the benefits of having a car, without the need to arrange insurance, servicing or resale. Shared mobility services, such as Volvo On Demand, offer even fewer barriers to mobility, for consumers who only need intermittent access to a car.

Among consumers wishing to own a car, attitudes are also shifting. Many express dissatisfaction with the traditional car buying process and are seeking simpler alternatives with faster delivery times. In response to these trends, there is a clear need to establish a comprehensive digital infrastructure. In line with wider retail trends, offering a streamlined online buying experience is vital to maintaining a competitive advantage, as well as an important channel for sales of additional physical and digital products. Online services must operate seamlessly with offline channels to create a unified, efficient consumer experience for both purchasing and the usage phase with for example servicing the car.

### Technology

In the premium car segment, technological innovation is a key factor in achieving competitive advantage. Consumers in this market expect extensive features, faultless functionality, and a high-end user experience.

High-specification infotainment systems with seamless connectivity are highly valued among consumers and offer the potential for continual improvements and sales of additional features. Several manufacturers have announced autonomous drive features, however, legislation is not fully in place, at a national and international level, to fully take advantage of these innovations. An increasing number of driver assistance systems are being introduced that significantly improve road safety and will lead to the incremental introduction of full autonomous driving. Software developments and the availability of over-the-air updates are growth areas in the premium car segment that add value for consumers and expand the market for subscription services.

**HUMAN-CENTRIC TECHNOLOGY**

We believe our customers want technology that is there for a purpose – built around to support the user.

# Volvo Cars as a part of the automotive market

We are well positioned to take advantage of established and emerging market trends by maintaining rapid transformation in several key areas and building on our purpose and strong brand values. Our strategy is to achieve sustained growth by pursuing a progressive electrification program and developing a model for direct consumer relationships to create more meaningful relationships with our ever-growing customer base.

Our aim is to maintain our position as one of the fastest-growing premium automotive brands and increase market share in all regions. We are focused on increasing both volume and profitability, seeking to reach annual sales of 1.2 million cars by mid-decade with an 8–10% EBIT margin. It is not our intention to grow in volumes at any cost, but to have sustainable growth.

We are delivering on a progressive policy of environmental and social responsibility. We are taking a proactive approach to improving the sustainability of our operations, our supply chain and our products. This includes through wider-ranging measures to reduce emissions across the lifecycle of our cars, as well as making better use of precious resources. In line with our established leadership on safety innovation, for the Volvo EX90, we are incorporating an extensive range of sensors and software into integrated systems that expand driver assistance and error-correction features, as well as enabling fully automated autonomous driving for the future.

Our commitment to a progressive electrification program positions us in the fastest-growing sector of the automotive industry. By ceasing investment in the development of internal combustion engines and expanding our range of plug-in hybrid and battery electric cars, we are making progress towards our ambition to build and sell only fully electric cars after 2030.

As software innovation is increasingly important for success, we are expanding in-house development in key areas, while maintaining strategic partnerships with other leading providers of advanced technology. This allows us to introduce features that are unique to our cars, as well as allowing seamless integration with interfaces from a variety of providers.

Our transition to direct consumer relationships may enable access to new income streams and give us greater influence over pricing and increase overall earnings potential.

### MARKET DEVELOPMENT

The global passenger car market continued to be impacted by supply constraints in 2022. China and Europe declined by 3% and 5% respectively. The US declined by 8%.

| Total industry volume share by propulsion type[1) 2)] | Full year 2022 | Growth YoY |
|---|---|---|
| BEV | 11.6% | 58.6% |
| PHEV | 3.9% | 33.3% |
| ICE (incl. mild hybrids) | 84.5% | –13.0% |
| **Total** | **100%** | **–6.9%** |

| Volvo Cars' market share per propulsion type[1) 2)] | Full Year 2022 | Full Year 2021 |
|---|---|---|
| BEV | 0.94% | 0.56% |
| PHEV | 5.59% | 8.90% |
| ICE (incl. mild hybrids) | 0.79% | 0.86% |
| **Total** | **1.00%** | **1.06%** |

1) Volvo Cars is and will continue to be positioned in the premium segment of the automotive market. As the market is transforming with electrification and digitalisation the definition of premium is being redefined. To simplify and to avoid the risk of excluding important parts of the market, we will report our market share in relation to the total market.
2) Includes content supplied by IHS Markit Automotive; Copyright © MarketInsight, February 2023. All rights reserved.

# The new, fully electric Volvo EX90

## The start of a new era for Volvo Cars

The Volvo EX90 is the realisation of our vision of a large family SUV in the electric age. Born electric and software-defined, it demonstrates Volvo Cars capabilities in terms of safety, tech, sustainability, design and creating a more personal experience for every customer.

It is also a statement for where we are, and where we are going. The new Volvo EX90 is more than just a car. It is not just the most advanced Volvo car we ever created – it is an entry ticket to a wider ecosystem of services and features that can make your life easier, more enjoyable and allow you to reap the full benefits of going all-electric.

It is fully electric with a range of up to 600 kilometres on a single charge, designed to further raise our safety standards, the first Volvo car to be truly defined by its software and part of a wider ecosystem, connecting to your home and your other devices. The Volvo EX90 is the start of something new for Volvo Cars in many ways.

It also signifies our new approach to ownership, whether you choose to get a Volvo EX90 online or by going to a retailer. You decide how you access it, whether that is through outright ownership, by subscribing to it or by leasing it. Whatever works for you.

Starting with the Volvo EX90, we aim to reveal at least one new fully electric car each year till mid-decade. By 2030, we aim to sell only fully electric cars, one of the most ambitious electrification blueprints in the automotive industry and crucial to our ambition to be a climate-neutral company by 2040.

**HEJ THERE ;)**

We revealed our new fully electric flagship SUV to the world in downtown Stockholm on the 9 November, reflecting our Swedish roots.

# OUR BLUEPRINT

# Our Blueprint

Our Blueprint starts with our purpose. For life. To give people freedom to move in a personal, sustainable and safe way. To live by our purpose and progress towards it, our strategic objectives with mid-decade ambitions include missions to guide execution.

Further, convinced by our purpose, and guided by our values combined with our behaviour creates our culture. Our culture empowers us and together with our code of conduct guides the way we do business. Finally Our Blueprint guides us in terms of which data to collect and the reporting required to follow up on our execution.


| STRATEGIC OBJECTIVES | | MID-DECADE AMBITIONS |
|---|---|---|
| FAST GROWING PREMIUM BRAND | Growth, profitability and sustainability | **1.2** million cars<br>**8–10%** EBIT margin<br>**40% $CO_2$** reduction per car from 2018 |
| FULL ELECTRIFICATION | A leader in the fast-growing premium electric segment | **50%** fully electric sales |
| A LEADER IN NEW TECHNOLOGY | Speed and value creation through new core compute technology | **50%** in-house software |
| DIRECT CONSUMER RELATIONS | Go-to-market model aligned with consumer expectations | **50%** online sales |
| FASTEST TRANSFORMER | Five missions to guide execution: People, Product, Technology, Customer, Digital | |
| CORPORATE PORTFOLIO | Build and visualise value outside the core (Zenseact, HaleyTek, Polestar, Lynk&Co, Novo Energy) | |

# Fast growing premium brand

## Growth, sustainability and profitability

Since 2010, we have undergone a thorough transformation and become a premium global brand. By renewing our product portfolio and opening new plants, we have almost doubled sales and increased profits over the decade. We aim for full electrification of our cars by 2030 and have expanded our technological capabilities ourselves and in partnership with leading tech companies.

It is our ambition to reach annual sales of 1.2 million cars while increasing profitability to an EBIT margin between 8–10% by mid-decade and reducing carbon emissions per car by 40 per cent between 2018 and 2025. We aim to realise our growth ambitions by increasing production of premium fully electric cars, which is the fastest-growing segment of the automotive industry.

***Brand image and design***

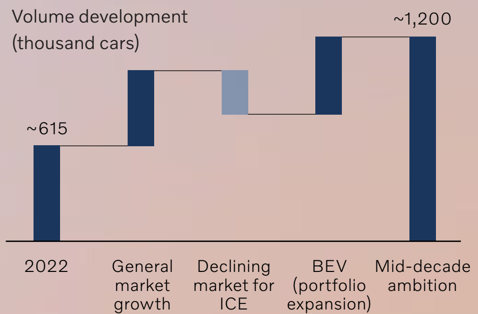
Our brand is widely recognised for its focus on safety, which is a key element in our purpose: For life. To offer freedom to move in a personal, sustainable and safe way. We protect what matters most, people and planet. Our values reflect significant trends in society towards environmental and social responsibility. The appeal of our rapid electrification programme, in combination with an attractive design language, is affirmed by strong demand for our electrified Recharge models.

By mid-decade, we aim for fully electric cars to account for half of our global sales, and to become a wholly electric car maker by 2030. Through the electrification of our fleet and addressing emissions across our value chain, we intend to significantly reduce our climate impact. We intend to achieve growth by developing in-house hardware and software, complemented by partnerships. We are aiming to build an infrastructure to form direct, long-lasting relationships with consumers allowing them to determine how and when they interact with us.

**Growth**

We are focusing on sustainable growth in all dimensions. By mid-decade, we aim to reach annual sales of 1.2 million cars. We intend to achieve this by focusing on the growing premium segment and meeting the growing demand for all-electric cars. This requires securing regional supply chains and expanding capacity.

**OUR MID-DECADE AMBITION –1.2 MILLION CARS**




BEV = Battery Electric Vehicle (fully electric);
ICE = Internal Combustion Engine.

**MID-DECADE AMBITIONS:**

**1.2** MILLION CARS

**40%** $CO_2$ REDUCTION PER CAR

**8–10%** EBIT MARGIN

FAST GROWING PREMIUM BRAND

In July 2022, we announced plans to establish a manufacturing plant in Kosice, Slovakia. The new facility will exclusively produce fully electric cars and consume energy from climate neutral energy sources. With a capacity of up to 250,000 cars per year, the plant will facilitate volume growth in the European market and contribute to the fulfillment of our electrification and sustainability ambitions.

In 2023, construction work will start on an electric car battery plant in Gothenburg, in a joint venture with Northvolt. NOVO Energy, the enterprise formed by our partnership, will produce batteries specifically developed for use in our next-generation fully electric cars, as well as future Polestar models. With capacity to supply batteries for up to half a million cars per year, the plant will establish an end-to-end battery value chain and enable growth in our European markets.

We see growing demand for both our hybrid and fully electric cars across all markets, as we expand into new market segments. As well as introducing cars in new segments into our product range, we are increasing the production capacity for plug-in hybrid models and broadening our portfolio of fully electric cars.

**Profitability**

The EBIT margin for 2022 was 6.8 per cent. EBIT margin, excluding share of income from joint ventures and associates, was 5.4 per cent. By mid-decade, we aim to increase our EBIT margin to between 8–10% by strengthening our position as a premium automotive company and enhancing our product portfolio. With a focus on increased growth, we aim to increase production efficiency, restructure our sales model and leverage fixed costs.

We are focused on five main areas in pursuit of increased profitability.

***1. Lowering the cost of electrification***

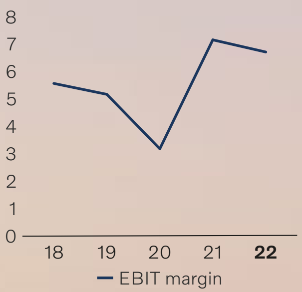
Although rapid electrification increases short-term costs, we aim to achieve cost parity with cars powered by internal combustion engines in our third generation of fully electric cars around mid-decade. Margins for fully electric cars are currently lower than for petrol and diesel cars. In 2022 the margins were further challenged by the spiked raw material costs. We do not expect these inflated prices for raw materials to sustain until mid-decade. We also expect profitability for fully electric cars to increase, as a result of improvements in technology and architecture.

We aim to reduce costs by developing more e-motors, power electronics systems and batteries in-house and through our joint ventures. Improvements to our production processes, including the mega casting of aluminium body parts, will offer additional cost benefits.

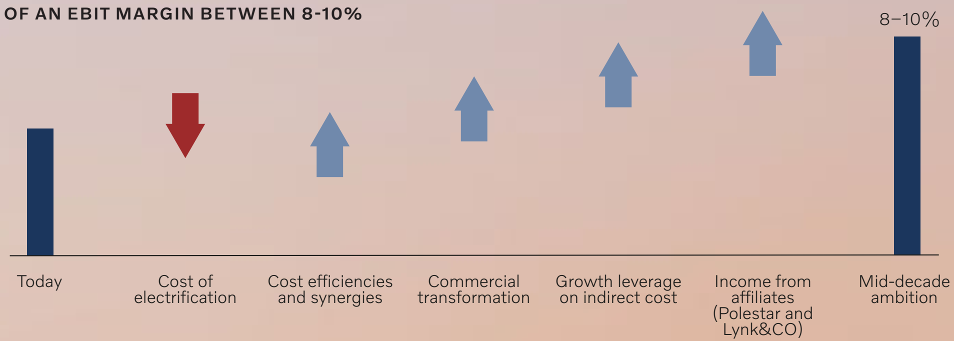
***2. Leveraging on cost efficiencies and synergies***

Vertical integration in key areas offer cost benefits to improve profitability. These include the development and production of core components, such as e-motors, in-house. As a part of the Geely ecosystem, we are also able to share costs in the development of new products and car architecture.


**EBIT MARGIN DEVELOPMENT**

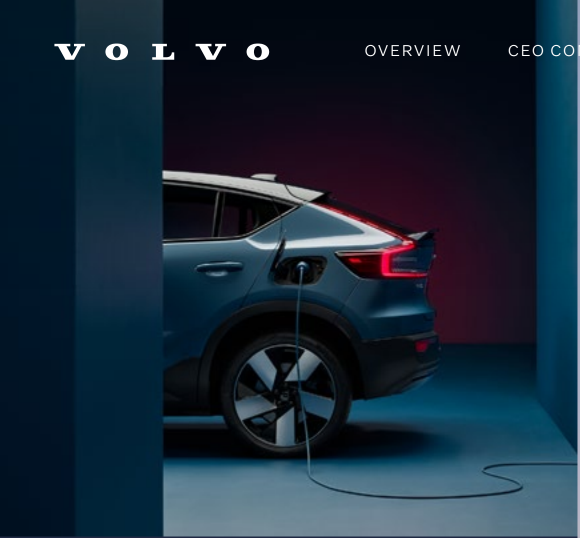



**TOWARDS THE MID-DECADE AMBITION OF AN EBIT MARGIN BETWEEN 8-10%**




**COST PARITY FOR OUR THIRD GENERATION OF FULLY ELECTRIC CARS**

We aim to achieve cost parity between internal combustion cars and fully electric cars around mid-decade. This will be possible through the development of our third generation fully electric car architecture.



# Accelerating to Zero

**Volvo Cars becomes founding member of Accelerating to Zero Coalition, calls for more climate action from governments**

During COP27, Volvo Cars also called on countries to step up their own climate action and meet the threat of global warming.

The Accelerating to Zero Coalition consists of a broad group of stakeholders committed to facilitating and increasing the pace of the transition to zero emission mobility.

It builds on Glasgow Declaration on Zero Emission Vehicles at COP26 in 2021, which Volvo Cars also committed to. Signatories committed to work towards making 100 per cent of global car and van sales free of tailpipe emissions by 2040, and no later than 2035 in leading markets (Europe, China, Japan and the US).

The formation of the Coalition addresses the need for an international platform for global zero tailpipe emission vehicle (ZEV) leadership. Through close collaboration, it aims to help create the right conditions to boost zero tailpipe emission cars and vans, including through the electrification of corporate fleets and the development of a comprehensive charging infrastructure.

FAST GROWING PREMIUM BRAND

### *3. Uplift from the commercial transformation*

Our transformation to further pursue direct consumer relations in applicable markets, has the potential to increase revenue, growth and pricing. Our commercial transformation also aims to lead to productivity increases, cost reductions and improvements in capital efficiency. Pursuing direct consumer relations through an omnichannel setup, aims to offer greater control over our value chain, specifically in terms of financing and insurance.

### *4. Growth leverage on indirect cost*

We aim for double-digit growth in the fast-growing fully electric car segment. Increasing volumes will allow growth leverage on profitability, as efficient investment, technology sharing, and partnerships reduce indirect costs.

### *5. Income from affiliates*

Although we expect our joint ventures and associates to contribute positively by mid-decade, our aim is to achieve our mid-decade profitability ambition without contributions from our affiliates.

### Sustainability

Limiting climate change is a responsibility we all share, and it is vital that we work together to address this urgent issue. As the automotive industry is part of the problem, we are making a concerted effort to become part of the solution. Focusing on sustainability is not only one of our core values, but also central to the success of our business strategy.

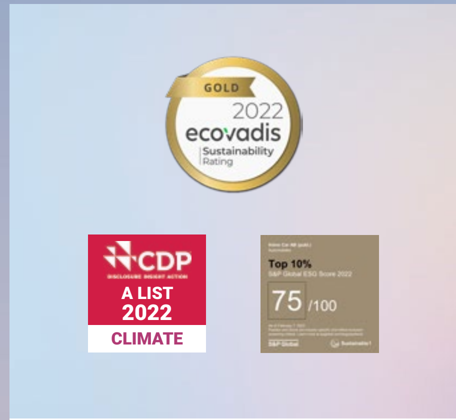
We are striving to become a climate neutral company by 2040. We also aim to be a circular business and to be a recognised leader in ethical and responsible business. As well as pursuing rapid electrification, we aim to reduce our $CO_2$ emissions per car by working towards clearly defined targets. We seek to reduce the carbon footprint per car throughout their lifecycle, by 40 per cent between 2018 and 2025. To achieve this target, we aim to reduce both supply chain and operational emissions per car by 25 per cent and tailpipe emissions by 50 per cent. We also aim to make our manufacturing operations climate neutral by 2025. By adopting circular material flows, we aim to reduce annual carbon dioxide emissions by 2.5 million tonnes per year by mid-decade.

We believe that working towards climate neutrality, adopting circular economy principles and conducting business responsibly, enhances our brand, attracts new investment and sustains profitable growth.

Improving sustainability is not just good for the world we live in; we believe it is sound business practice. In many cases, reducing emissions and finding closed-loop recycling solutions also lowers costs. In addition, we have introduced internal carbon pricing, charging SEK 1,000 for every tonne of $CO_2$ emitted in our value chain, in order to encourage sustainability improvements to accelerate carbon reduction efforts and future proof our company. Our forthcoming fully electric cars will undergo a profitability analysis incorporating the internal carbon price effects to ensure they are profitable within this carbon pricing scheme and meet our sustainability criteria.

In 2022, we issued our second green bonds to attract investment that will enable the achievement of our electrification and climate neutrality ambitions.

Between 2018 and the end of 2022, we have reduced total $CO_2$ emissions per car by 14.8%. Read more on the progress in 2022 in our sustainability section on page 38.




**HIGH ESG RATINGS**

Sustainability rankings and ratings are becoming an increasingly important consideration for investors as well as for customers and other stakeholders. Volvo Cars believes that as well as giving important external assessments of our sustainability performance, engagement with ratings agencies also enables us to improve our performance.

We have been recognised as a global leader in climate action and our increased focus on sustainability is confirmed by the rankings above. Read more about our ratings on page 193.

# Full electrification

## A leader in the fast-growing premium electric segment

It is now widely accepted that the age of the internal combustion engine is coming to an end. After relying on oil for well over a century, the automotive industry is now entering a new phase. While the introduction of electric cars is happening incrementally, it is vital that car makers set strategic targets to phase out internal combustion engines. We recognise this as an environmental imperative, as well as a driving force in the future of our business.

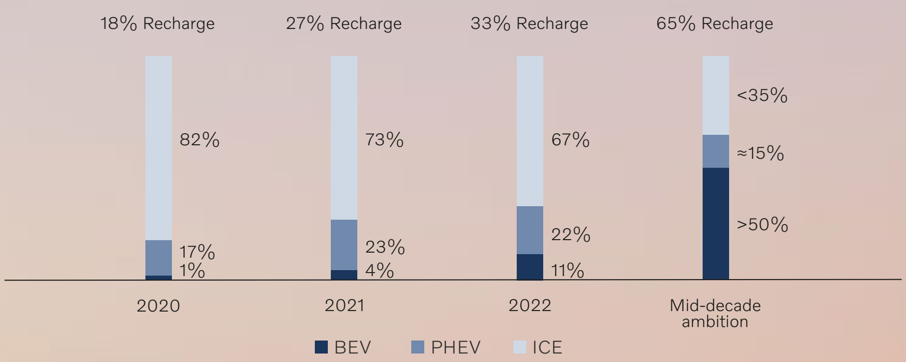
For this reason, we were the first traditional car maker to announce specific targets for the transition to full electrification. While progress will be led by customer demand, we have already ceased investments in the development of internal combustion engines and aim to sell only fully electric cars by 2030. In 2022, in line with that ambition, we divested our 33 per cent stake in powertrain company Aurobay, becoming the first traditional car manufacturer to fully exit its participation in the development and manufacturing of internal combustion engines.

### Market leadership

While the automotive industry is in a period of transition, we aim to be market leaders in the premium-priced electric car segment. The pace of this transformation will be driven by many factors, including customer preferences, national legislation and the urgent need to mitigate climate change. Electrification plays a critical role in our efforts to reduce carbon emissions and offer sustainable mobility.

We have a clearly defined strategy to make a rapid transition to full electrification. With an attractive product plan for our next-generation electric cars and strong demand for existing models, we will progressively reduce our exposure in the market for petrol and diesel-powered cars. The introduction of dedicated, fully electric car architecture will improve efficiency and allow us to fully integrate the development work and manufacturing expertise we have acquired in the production of e-motors. In partnership with Northvolt, we are developing sustainable battery technology and securing our battery supply. We are well positioned in the fast growing electric car market to achieve above market growth. We aim to achieve cost parity with cars powered by internal combustion engines in our third-generation electric cars.

**VOLVO CARS' ELECTRIFICATION STRATEGY**

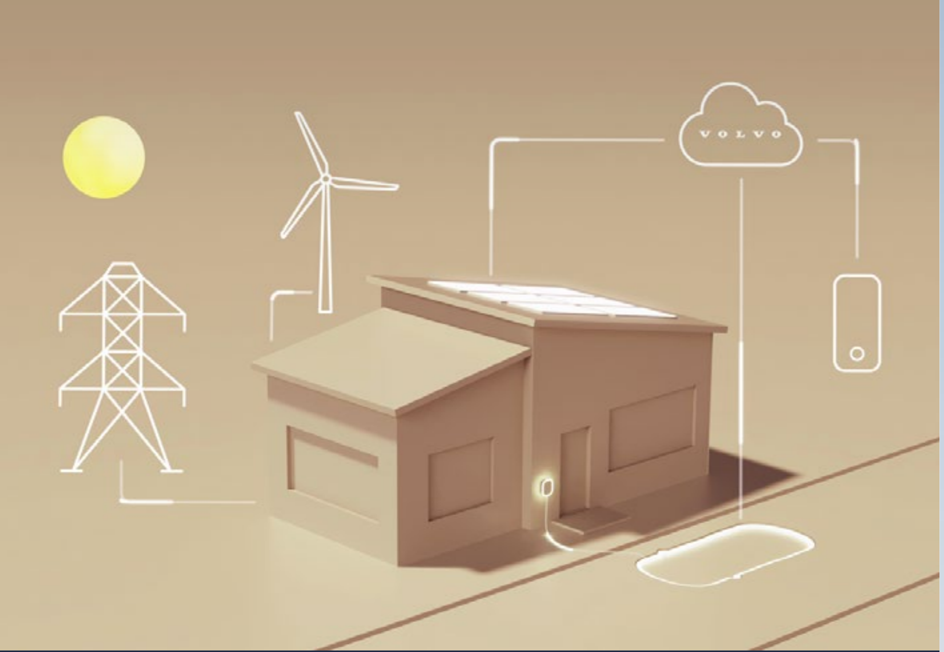



**MID-DECADE AMBITION:**

**50%**

**FULLY ELECTRIC**

Global share of fully electric sales was 11 per cent in 2022.




# Bi-directional charging

Our new fully electric Volvo EX90 will be the first Volvo car to feature bi-directional charging capabilities.

In a period of rising electricity prices and increasing demand on power grids, bi-directional charging has the potential to benefit both consumers and electricity suppliers. As electric cars become commonplace, bi-directional charging could turn cars into energy storage units that feed electricity back into the grid, power homes and external devices, or charge other cars.

By charging cars at times when there is a surplus of cheaper, renewable energy, the electricity they store can be sold back to local grids at times when demand and costs are high. In effect, large numbers of electric cars can form a storage network, with the potential for more efficient and sustainable energy utilisation.

The bi-directional charging process is aimed to be managed automatically by a smart-charging function in the Volvo Cars app, with an algorithm that ensures the car batteries are charged and discharged in a way that reduces the risk of degradation.

We are currently evaluating in which markets we will be able to offer bi-directional charging, as and when the technology to enable it to become available. As part of a home energy management system, we plan to offer the hardware necessary to start using bi-directional charging, including an advanced wall box, adapter plugs for appliances and cables for charging other cars.

FULL ELECTRIFICATION

## Strategic planning and progress

As can be expected from a company with a history of pioneering progressive change, we are committed to our full electrification ambition. In 2022, plug-in hybrids and fully electric cars accounted for 33 per cent of our total sales. We are continuing to increase the number of fully electric cars we produce year-on-year, in line with a significant growth in demand.

By mid-decade, we are aiming for fully electric cars to make up 50 percent of our total sales. Especially in the second half of the decade, we estimate that sales of combustion engine-powered cars will rapidly decrease, as supply and demand in the electric car segment increases.

## Next-generation car architecture

In preparation for the introduction of car architecture specifically designed for electric cars, we will continue to invest in the design, development and production of our own e-motors, batteries and software. As part of our electrification strategy, we are focused on seeking synergies, cost savings and efficiency improvements throughout the company. The newly revealed Volvo EX90 represents our second-generation electric cars utilising our first platform specifically designed for electric cars.

We have committed to introducing at least one new electric model, each year, by mid-decade. The next model we launch will be a small SUV, allowing us to enter this market segment with strong competitive positioning.

## Quick charging and increased range

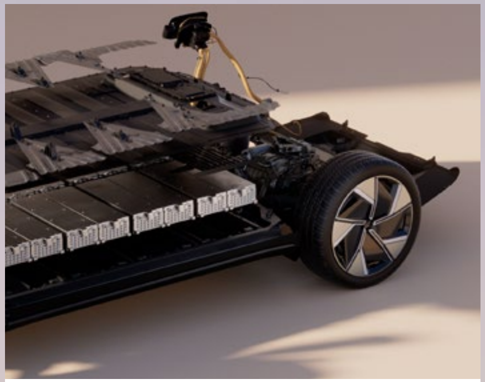
Through NOVO Energy, our joint venture with Northvolt, we are developing battery systems that intend to meet the needs of our next-generation electric cars. By coordinating this work with our developments in fully electric drivelines, we aim to continue to offer our customers improvements in charging times, range and efficiency in our forthcoming all-electric models.

GROWING BEV PORTFOLIO

We are to release a new electric car every year through to mid-decade.

FULL ELECTRIFICATION

**Increasing investment in electrification**
We are funding several industrial infrastructure projects that will enable us to achieve our electrification ambitions. More than half of our total investments are focused on enabling the expansion of fully electric car production. While we currently have the structural capacity to produce 1.2 million cars per year, the strategic investments will increase the share of all-electric cars we produce.



DEDICATED ARCHITECTURE

Starting with the Volvo EX90, we move from first generation fully electric architecture to dedicated architecture for full electrification only.

We have communicated an investment of SEK 30 billion to build a battery manufacturing facility in Gothenburg, which will open in 2026. Through NOVO Energy, this project will be funded by debt and equity financing.

An investment of SEK 10 billion is being made at our Torslanda site, in preparation to produce our next-generation all-electric cars. This will introduce a range of new processes, including the mega casting of aluminium body parts, and will offer significant sustainability, cost and energy efficiency benefits. The investment package will also fund a new battery assembly facility, as well as the refurbishment of logistics areas and the paint and final assembly shops.

In our Ghent plant in Belgium, manufacturing capacity of fully electric cars has quadrupled, and 80 per cent of production at our Taizhou facility is devoted to all-electric cars.

**Securing the supply of batteries and raw materials**
As batteries are integral to the performance and sustainability of electric cars, our long-term aim is to develop and manufacture batteries that are specifically designed for use in our next-generation all-electric cars. As part of NOVO Energy, we are establishing development and production facilities for batteries that meet our sustainability ambitions and the expectations of our customers, in terms of sourcing materials, manufacturing and recycling. While we establish the infrastructure to produce dedicated car batteries for the European demand through NOVO Energy, we will continue to source battery cells from external suppliers.


# New battery plant in Gothenburg

In 2023, construction work will start on a new battery production facility in Gothenburg, as part of our partnership with battery manufacturer Northvolt. Along with the establishment of a research and development centre, announced in December 2021, NOVO Energy, forms part of a SEK 30 billion investment package.

The plant will produce batteries specifically developed for use in our next-generation all-electric cars. When construction and installation work is completed in 2026, the plant will supply our manufacturing facilities in Europe, producing batteries for half a million cars per year with a potential annual cell production capacity of up to 50 gigawatt hours (GWh). As one of the largest battery facilities in Europe, it will employ up to 3,000 staff.

Our collaboration with Northvolt positions us as one of the few automotive brands to fully integrate battery development and production into its end-to-end engineering capabilities. As batteries have a major effect on the carbon footprint of electric cars, our partnership with one of the leading companies in sustainable battery production will significantly reduce the environmental impact of our next-generation cars. The plant will be powered by climate neutral energy and integrates engineering solutions that prioritise circular material flows and resource efficiency.


# Expanding operations into Slovakia

In July, we announced plans to build a new plant in Slovakia, which will become our third European manufacturing site. On completion, this state-of-the-art facility will produce all-electric cars exclusively.

Investing in the new plant will help us meet growing demand for our all-electric cars, capture future growth potential and support of our ambition to sell only fully electric cars by 2030.

By situating the plant in Eastern Europe, we create a triangle of production facilities covering our largest sales region, with Sweden in the north and Belgium to the west. Slovakia has a well-established automotive supply chain with several other car manufacturers present in the country.

In line with our ambition to become a climate neutral company by 2040, the plant will only use climate neutral energy and lead the way in the production of sustainable and efficient premium electric cars.

The site in Kosice, in the east of Slovakia, takes advantage of good transport links with the rest of Europe. With an annual capacity of up to 250,000 cars and room for expansion, the plant will provide thousands of new jobs in the region.



We have short, medium and long-term strategies to secure our supply of car batteries and the scarce raw materials from which they are made in a responsible way. In the short-term we are working with external battery suppliers with volume commitments, including access to raw materials. In the medium-term, we aim to establish fully localised supply chains in each of our production regions and have secured commitments from raw material suppliers.

We are also, in the long-term, evaluating options in going further into our supply chain to forge partnerships that will enable us to secure greater access of affordable and sustainable raw materials – focusing on our most critical materials such as lithium and nickel. In the first quarter of 2026, production of our dedicated batteries will start at the NOVO Energy production plant we are establishing with Northvolt.

**Batteries and responsible sourcing**
As battery production increases, so does demand for the rare earth metals and minerals they contain. To conserve the finite supply of materials, such as cobalt, lithium, and nickel, we aim to remanufacture batteries at our regional battery centres. We collaborate with companies that use closed loop recycling to ensure as much of end-of life battery content as possible remains in circulation.

Through responsible sourcing, we aim to reduce potential human rights risks of our batteries and are therefore using blockchain technology for parts of our supply chain to increase transparency and secure traceability. We also monitor mining conditions through the Better Mining initiative, for example. Read more on page 172 of the Sustainability Report.

**Charging made easier**
In order to encourage the rapid uptake of all-electric cars, we aim to make charging easy and convenient. The ambition is to give access to a global charging network, with real-time information on hundreds of thousands of charging stations and consolidates payment in an easy-to-use interface.

We have agreements with China's three leading charging operators - Star Charge, State Grid and TELD - who own more than 75 per cent of the country's charging points. The Volvo Cars app allows customers to charge their vehicles by scanning a QR code and pay through leading payment services, including WeChat Pay and Alipay.

In Europe, Volvo drivers can access over 350,000 charging points, through integration of the Plugsurfing network into the Volvo Car app. We are investing in Powerstop quick charging points in countries including Poland, Italy and Belgium, and are working with Spanish utility firm Iberdrola to provide charging points at Volvo Cars retailers. In Sweden and Norway, we are collaborating with charging operator MER to offer preferential rates.

The Volvo Cars app will be launched in the United States, offering access to over 25,000 charging locations. Earlier in 2022, Volvo Cars USA also announced a scheme to install up to 60 quick chargers at Starbucks branches.

# A leader in new technology

## Speed and value creation through new core compute technology

In order to stay ahead as providers of personal, sustainable and safe mobility, we are continually pushing the boundaries of technology. We are now witnessing a clear trend in the automotive industry towards a separation in the development of software and hardware. While these two elements must work together seamlessly, we believe that software innovation will be a defining factor in the success of our future cars. In contrast to the features that have traditionally sold cars, there is a notable shift in focus to brainpower over horsepower. For this reason, it is important for us to develop in-house software that are unique to our products.

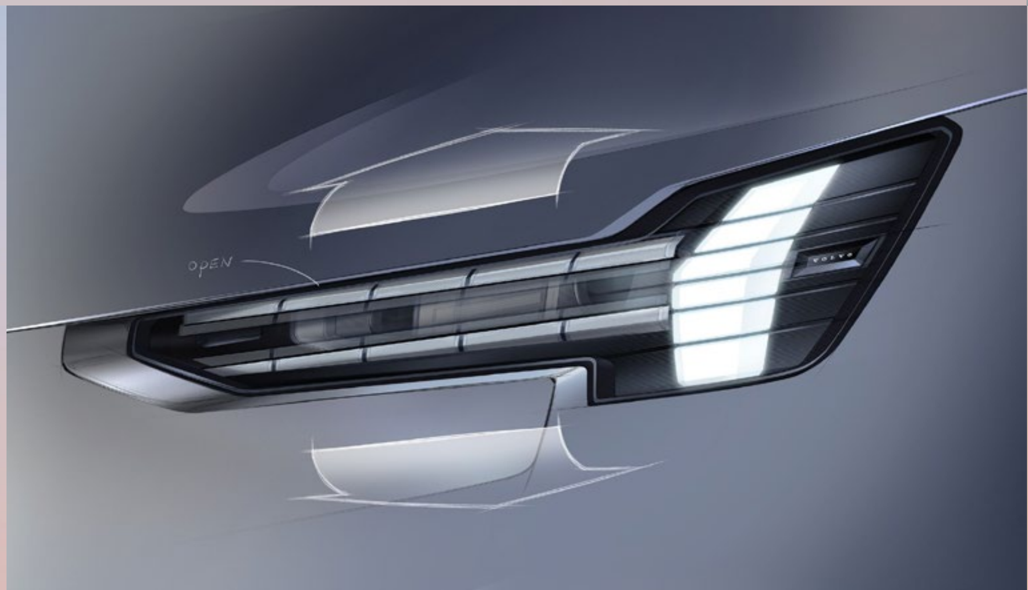
We believe that software innovation adds value for customers. Our next generation car architecture is built on a technology base with central computing specifically designed for fully electric cars. Our software aims to dramatically improve safety for those both inside and outside a Volvo car, with features that support drivers, when needed the most. The eventual introduction of autonomous driving technology will both increase road safety and offer the freedom to pursue other activities, while in the car.

Our software will also offer a personalised user experience and our cars will receive over-the-air upgrades that continually improve the car's functions and capabilities, in much the same way as smartphones and computers.

By focusing on value-adding software development in-house, we can accelerate the pace of innovation, in comparison with the long lead times associated with hardware improvements. It also means we can quickly adapt to changes and new business opportunities and can easily transfer software innovations across our product range. Selling software also has potential to open new future revenue streams for the company.

### REAL-TIME DATA

We use the data generated by millions of connected Volvos around the globe to validate and improve our products. This approach reflects the power of sheer volumes of data: instead of relying on a limited number of cars on a test track, we can use the data generated from millions of kilometres driven by tens of thousands of Volvo drivers around the globe to validate and deploy new technology.




### STATE-OF-THE-ART HARDWARE SEAMLESSLY INTEGRATED WITH SOFTWARE

With our new electrical architecture and in-house developed software, we have built the foundation for high development speed and continuous deployment of personalised customer experience.

# Our people are key for our transformation

Our strategy and our direction is clear, we know where we are heading. To get there, we need to have the right people in the right place. Our global and diverse workforce is central to our success, and we aim to be an employer of choice for people who want to make a difference and allow them to continuously grow and develop with equal opportunities. We have a strong culture, we are curious, collaborative, and courageous working together. We believe we are most creative when we collaborate in real life.

Attracting and retaining talent is crucial to delivering on our strategic ambitions and we must go where we can find them. Therefore we are expanding our office footprint with new Tech hubs to secure these critical competencies and we attract and gather competence to the hubs who can collaborate and work closely together on common goals.

Each Tech hub has its defined purpose and their area of expertise. For example, our newly opened hub in Stockholm is focused on commercial digital, digital application development and direct customer relationships. It aims to be a central part of Stockholm's tech scene, close to the birthplace of several globally successful tech companies.

*"Our people and our strong culture are key for our success"*

**Hanna Fager,**
Chief People Officer

A LEADER IN NEW TECHNOLOGY

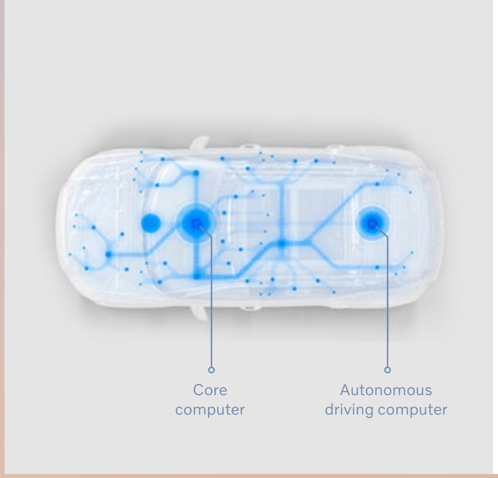
**Software defined, powered by core computing**
In support of our software developments, we are transforming the electric architecture of our cars. Our next-generation all-electric cars will feature a powerful core computing system that dispenses with many of the electronic control units that previously controlled individual features.

Powered by two NVIDIA systems that can execute over 280 trillion operations per second, the computing system will carry out complex tasks, such as processing information from the large number of sensors that are integral to our comprehensive safety systems.

Decoupling hardware and software allows us to develop unique software, without reliance on external suppliers. This will accelerate the rate at which we can develop features and offer greater value for consumers.

With fully connected cars, our core system and in-house software stack will create full control of the integration flow – from code to the car. Our software development is built on principles of continuous development and release, with room for expansion.

Having control of the software stack and making our software platform flexible enables integration and partnership with other leading technology companies. Developing unique software adds value for our customers and allows our products to retain a distinct Volvo signature.




**CORE COMPUTER**

Centralising the computers inside our next generation of fully electric cars removes a layer of complexity with reducing the amount of multiple electronic control units around the car. This allows for faster and constant development to equip our cars with the latest software and hardware.

A LEADER IN NEW TECHNOLOGY

**Development and control of software features**

Taking pride in securing high functional quality in all aspects of our products, we aim to pay extra attention to the functions affecting performance and customer perceptions in aspects strongly ingrained in our DNA. For these features we are moving to increasing the share of in-house development software. Listed below are four examples of these areas that we see as especially value adding to our customers affecting how our products are perceived.

*Body control:* The lights, lock and unlock features are examples of key parts of the interaction customers have with the car every day. This means control of the software stack is crucial. Especially with the introduction of a digital key, the interaction needs to be seamless.

*Vehicle motion & propulsion:* This is a key strategic area on our way to be a leader in the field of electrification. We are looking at vertical integration across all parts and for the software, including optimisation of range and charging times. Additionally, software enables the integration of electric cars into other energy ecosystems. Many of the integrations are happening in the car but also much in the cloud.

*Vision & perception:* Our core computing architecture will process and control the large array of sensors, both inside and outside the car, on our new car architecture. In combination, these sensors will allow the car to build a comprehensive image of its surroundings. The Volvo EX90 will be our first car to include a driver understanding system that also assesses the status of everyone inside the car. In collaboration with Zenseact, we are developing safety technology that will increase progress towards our zero collisions vision.

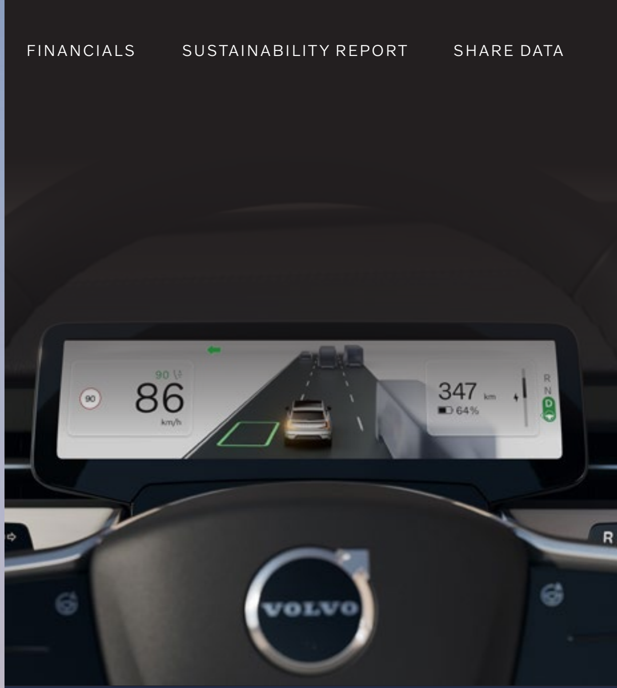
*Infotainment & connectivity:* We are now building on an open-source platform that will take in-car infotainment and connectivity to the next level. Our infotainment system, the first based on the Google Android Automotive system, will expand access to data and offer a personalised service with potential for subscription through software sales. The ambition is that the Volvo Cars app forms part of a seamless interaction process that enables ordering, supporting the home energy management system and smart charging, among other features.

BODY CONTROL

VEHICLE MOTION & PROPULSION

VISION & PERCEPTION

INFOTAINMENT & CONNECTIVITY



# Volvo EX90 to support Google's new HD map

Continuing our long-standing collaboration with Google, Volvo Cars and our strategic affiliate Polestar will be the first car makers to bring their HD map technology into our cars, starting with the recently unveiled Volvo EX90 and Polestar 3.

By integrating Google's HD map, we will be able to bring together data from our industry leading sensor set in the Volvo EX90 with Google's precise lane-level and localisation data to facilitate assisted driving features like lane change assistance and Volvo Cars' Pilot Assist technology, as well as future autonomous driving functionality.

The addition of Google HD Maps in our future car line-up marks an expansion of our strategic collaboration with Google, reflecting our commitment to work with technology leaders.

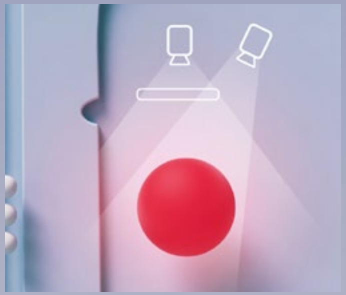
A LEADER IN NEW TECHNOLOGY

**Safety and our Zero Collision vision**
Safety has always been at the core of our purpose, and since 2007 we have been guided by the vision that no one should be seriously injured or killed in a new Volvo car. Since then, this has been further expanded into our Zero Collision vision. These visions guide us to continuously make our products safer for all.

With 'Safety in mind' we are taking the next step, adding more perspectives to safety and challenging some of our assumptions. In particular, we believe that safety is not only achieved through technological development but is profoundly affected by human behaviour. In short, just as how we drive can affect how we feel, how we feel can affect how we drive.

Traditionally, we have focused on getting our cars to better understand what's happening around them to help avoid accidents and offer better protection should an accident still happen. These remain important areas, but to break new ground in how to protect people, we need to go further – we need to improve the car's understanding of the driver's state and be able to adapt the support accordingly. In the era of 'Safety in Mind' we are also directing attention to the state and needs of the occupants, helping the driver to secure their safety at all instances.

To support these next steps and our aim towards Zero Collisions we have formulated four strategic work areas.

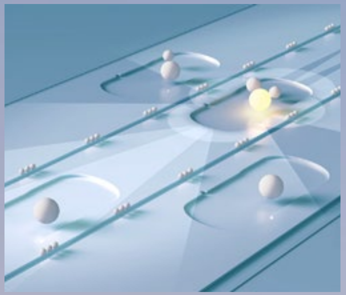


### SAFE DRIVER
To secure safe driving in any given situation we need to understand both driver state and driver expectations to enable offering support tailored to both driver and situation. To achieve this, we need to continue our research into driver understanding, focusing on real-world customer needs, while targeting inclusiveness in relation to driving experience and context. Our research incorporates real-life driving- and accident data.

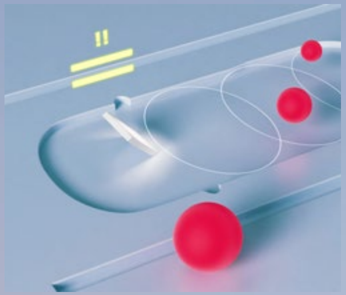
Our driver assistance and autonomous driving systems are design from a safety-first perspective, meaning system capabilities are improved continuously based on real world customer needs and after rigorous testing and verification.

### SAFE CAR
Should an accident still happen we innovate to help ensure that the vehicle offers the best possible protection for everyone. This includes understanding user needs, adopting to biomechanical variations and considering post-crash care in our product development.

To support development of products offering safety for all, we are developing our own computer model of human beings – aiming at full geometrical as well as biomechanical representativity.



### SAFE STREET/ROAD
We aim to ensure that our cars contribute to overall road safety, with a focus on vulnerable road users, by using precautionary safety measures. Our research is conducted in the EU, US and China, in collaboration with infrastructure owners and other manufacturers.



### SAFE SPEED
We aim to increase awareness by sharing our knowledge and research results, in an open, ongoing dialogue, about the connection between speed and road safety.

We are developing intelligent speed adaptation systems that react to different traffic environments and drivers.

## Technology powering our safety ambitions

### SAFE OCCUPANTS: OCCUPANT SENSING
We are introducing a new occupant sensing system to future Volvo cars, where regulations allow, starting with the new Volvo EX90. The system is aimed at helping parents, caregivers and pet owners avoid the chances of leaving an occupant behind in the car by accident – the leading cause of hot car deaths.

It aims to be the first deployment of a radar-based sensing system throughout the entire cabin – front to back, including the rear trunk. The system is designed to detect movements as small as a child or animal breathing and alert the driver when locking the car.

### SAFE DRIVERS: DRIVER UNDERSTANDING SYSTEM
To break new grounds in active safety, we recently introduced a driver understanding system inside the new Volvo EX90. Volvo Cars' driver understanding system is a set of interior sensors and algorithms that aims to understand if a driver is losing track of the driving task. It can help address driver behavioural issues such as distraction by allowing the car to actively warn and act to help avoid accidents that otherwise could result in severe injuries or death.

A LEADER IN NEW TECHNOLOGY

**OTA (over-the-air) updates**

All new models in our product portfolio will be capable of receiving over-the-air software updates, enabling us to add new features and improve existing ones. Volvo Cars has until now delivered around 1 million over-the-air updates to our cars in 68 countries.

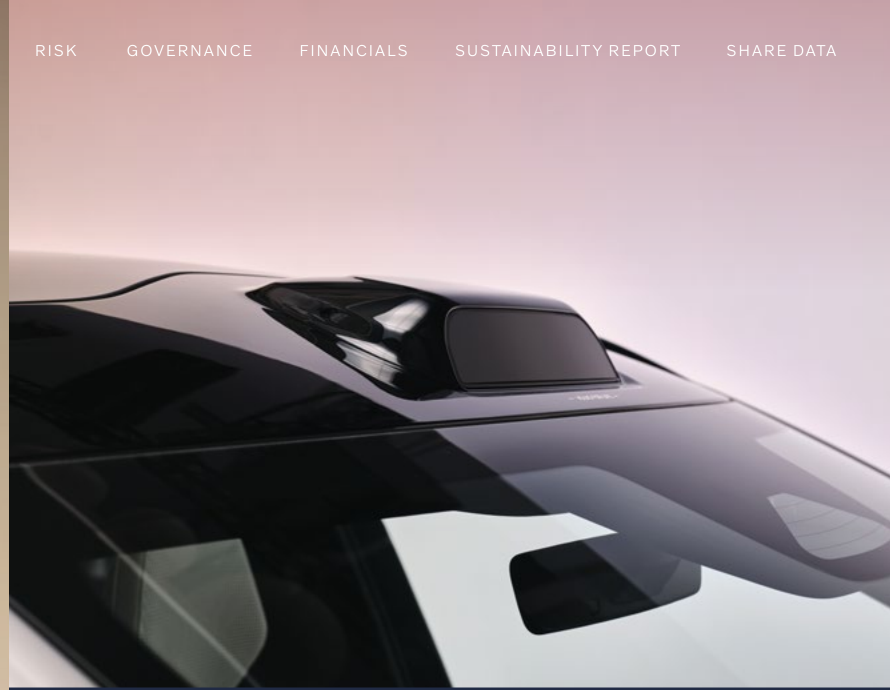
Our infotainment system is developed in collaboration with Google and brings our customers a user-friendly interface, exceptional connectivity and access to well-known apps and services, such as Google Assistant and Google Maps, on one of the best in-car platforms available. In 2022, Volvo owners saw their infotainment systems upgraded to a new version of the Android Automotive OS, launched through OTA update. They now have access to additional navigation, charging and parking apps on Google Play.

OTA updates have also brought improvements to our energy management systems that help maintain battery temperature and boost range, with the Volvo Cars app also receiving more frequent charging updates from the car. More than ever before, OTA updates help fulfil our ambition to continuously improve the products and services we offer our customers.

**Strategic collaborations**

By integrating our own innovative software with other leading providers of advanced technology, we can offer our customers an extensive range of products and services. We offer flexibility and seamless integration that allows our customers to choose interfaces from a variety of providers and personalise their cars to their own requirements and tastes.

Our internal software development teams work collaboratively with our partners in a global network of technology hubs. Our ownership of Zenseact, our software developing company in autonomous driving and advanced driver-assistance systems and our collaborations with HaleyTek (in Android-based infotainment software platforms), Google (in infotainment systems) and Nvidia (in core computing) provide the most effective means to achieve rapid technological innovation.



# Improving safety through lidar

Our new Volvo EX90 is the first Volvo to be equipped with lidar, which will make a key contribution towards our goal of significantly reducing collisions, fatalities and serious injury. Lidar (which stands for Light Detection and Ranging) is a remote sensing method that uses laser pulses to detect objects and measure distances with high precision.

As the lidar does not rely on a light environment, its capabilities are undiminished at night. Being able to detect pedestrians up to 250 metres away and something as small as a tyre on a black road 120 metres ahead, Lidar could have a remarkable effect on safety. Our research indicates that adding lidar to an already safe car can reduce accident severity in up to 20 per cent of the serious cases and improve collision avoidance by up to 9 per cent[1].

In combination with other sensors and our core computing system, lidar can enable earlier automatic emergency braking and allow our forthcoming models to carry out autonomous evasive action in a wide range of complex scenarios.

1) Scenario frequencies based on Volvo Cars Traffic Accident Database.

# Direct consumer relations

## A new go-to-market model aligned with consumer expectations

Volvo Cars is in the midst of a fundamental change in how we do business, evolving what, where and how we sell. This commercial transformation is crucial to our long-term ambitions and growth as a company as we aim to be fully electric by 2030 and create more meaningful relationships with our ever-growing customer base. In 2022 we made substantial progress in this area, rolling out new direct sales channels and developing our digital capabilities. Looking ahead, 2023 will be a pivotal year, as the UK becomes our first 100% direct market.

**Changing consumer demands leading to a new go-to-market model**

Traditionally, Volvo Cars has operated based on a global network of retailers who sell our products to end customers. This network has served us well, and currently covers approximately 2,500 retailers, organised by 22 National Sales Companies and 44 importers. The existing car fleet comprises around 10 million cars, which will require service and maintenance for years to come.

However, the digital revolution has drastically changed how customers learn about and buy new products, as your next purchase is now only a few clicks away. The automotive sector is no exception, with new players and disruptors leveraging digital solutions to create a better customer experience and drive efficiencies. Volvo Cars stands to gain a lot from this evolution, but it cannot be done without adjustments to the existing, decentralised wholesale model. To that end, we are rolling out a new go-to-market model, based on strong digital platforms and direct consumer relationships.

MID-DECADE AMBITION:

**50%**

ONLINE SALES

Volvocars.com as the main sales channel, supported by a great offline experience at our retailer locations and Volvo Cars studios.

**VOLVO CARS APP – CONNECTING WITH YOUR VOLVO CAR "FOR LIFE"**

The role of the car is changing – from a product you buy a few times in your lifetime, to a larger ecosystem of mobility offers. The Volvo Cars app gives you easy access to services and support.

DIRECT CONSUMER RELATIONS

## Creating a better consumer experience

The new model is characterised by a simplified product offering and more predictable pricing – removing the hassle of endless choice and price-haggling. While some car-buyers might appreciate this part of the process, we know Volvo Cars customers prioritise simplicity and knowing they are getting a quality product to a competitive price. To achieve the best possible experience for every customer, we are rolling out a truly omni-channel model, meaning that customers can choose how and when they interact with us. They may start their journey by researching online and continue by coming into one of our retailer locations or urban studios. Regardless of what they choose, they should get the same great, Volvo Cars experience.

With volvocars.com as the base and main sales channel, we are removing administrative burden and gaining better access to customer data. This will allow us to drive more efficient marketing and customer service, such as booking your next car servicing online. Moreover, we will gain better control of our inventory flows. In the old wholesale model, each retailer managed their own stock of cars, which might not have been aligned with customer demand. In the new model, thanks to a centralised digital system, we will be able to see all cars that are available across markets at any given time. In short, it will be easier to have the right car, at the right place, at the right time. This is a big plus for retailers, customers and Volvo Cars alike – as we will also be able to deliver our cars faster.

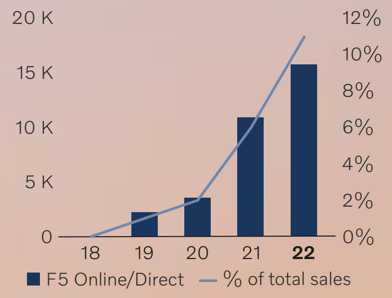
To further improve flexibility, we will continue to develop new ways for customers to access a Volvo car – such as leasing through our Care by Volvo subscription offer and car sharing through Volvo on Demand.

Altogether, these changes will allow us to deliver a better and smoother customer experience in a more efficient way, bringing down our cost for the overall sales and distribution system.

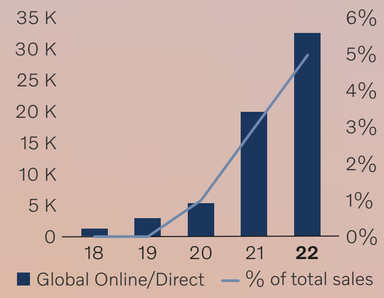
**ONLINE AND DIRECT SALES* EVOLUTION**

*Ordered online with transparent online price and direct invoice yet in line with franchise laws in US/Canada

**F5****




**GLOBAL MARKETS WITH DIRECT/ONLINE SALES*****




**LAUNCH YEARS FOR ONLINE SALES:**

2018 – Germany
2018 – US
2019 – The Netherlands
2020 – Norway
2020 – United Kingdom
2021 – Sweden

**F5: UK, SE, NL, NO, DE

***Global: F5, US, CAN, China, Malaysia, India

DIRECT CONSUMER RELATIONS

*"Our ambition is to create the best possible consumer experience – online and offline – delivered to a lower overall cost. In 2023 we will continue to roll out mobility offers that respond to our customers' needs, ramp up our digital capabilities and build more meaningful direct consumer relationships – as the UK becomes our first 100% direct and online market."*

**Björn Annwall,** Chief Commercial Officer & Deputy CEO

### How we drive change

To achieve this, Volvo Cars needs to take a more active role, assuming responsibility for the digital platforms as well as the entire customer journey. As a result, the role of our retailer network will change. This will look differently depending on where we are in the world, as the legal framework differs between the regions. In Europe we are implementing an agency model that allows us to set transparent online prices and transact online.

We are also integrating financial services and insurance in the overall flow. Other regions will see slightly different solutions, but always with the aim to offer the best customer experience to the lowest overall cost. Across all markets - this is a change we are doing together with our retail partners, with the simple objective to make a better consumer experience per cost for the total system.

Volvo Cars first launched online and direct sales with our Care by Volvo subscription offer in 2018 which was gradually rolled out to five markets in Europe (GER, NL, SWE, UK, NOR) as well as the US. Since then, we have added cash and fleet sales for small and medium enterprises and the share of online sales has grown to approximately 10 %.

We also see that we manage to attract new consumer groups – for example, the average Care by Volvo customer is 12 years younger than the average Volvo buyer and the conquest rate from other brands is high.

The consumer demand for our online offer is strong and we expect online sales to grow significantly in the next few years. In Europe we are now ready to transition full markets into the direct sales model. In 2023 the UK will become our first fully online and direct market, to be followed by Sweden. More markets will make the transition as they become ready.

We have signed a new agency contract with all our UK retailers and have evolved our digital capabilities to make things simple for the consumer. We have also made the required administrative back-end processes more efficient.

Moving forward, we will transparently share our online sales figures in our quarterly reporting. We will also closely monitor the efficiency of our back-end systems and marketing efforts, how smooth the customer experience is and how our customers are using the new digital tools – for example online service booking. We will continue to work closely with and strengthen our retail partners.

**FIRST MARKET TO CONVERT: UNITED KINGDOM**

The UK is our first market to convert to an 100% direct and online sales model. The process is well underway – in 2022 we rolled out online sales solutions for businesses and the agency-set-up of our retailer network is taking shape. In 2023, we will expand the online offer to private customers and integrate financial services and insurance in the overall flow. Once the online sales flow in the UK is fully operational, we will close the wholesale channel. We'll then move on to transform more markets in Europe, beginning with Sweden.

# Fastest transformer

## Five missions to guide execution

### PEOPLE

Focus areas:

- Organisation & Leadership
- Competence & Performance
- People experience & Engagement
- Communities & Society

*"We will focus on our people to develop and enable them to live our values, leading to a positive impact on our business, customers, partners and wider society."*

### PRODUCT

Focus areas:

- Product & Process Quality
- Product plan
- Software defined vehicle
- Data and cyber
- Product development
- Manufacturing and Supply Chain
- Sustainability and circularity

*"We will provide customers with outstanding products that are designed around people and their needs and fully electric by 2030."*

### TECHNOLOGY

Focus areas:

- Electric vehicle
- Active safety
- E/E architecture
- Infotainment, Connectivity & Cloud
- Innovation & IP

*"We will discover, develop and deploy technology that delivers exceptional solutions for people and the planet."*

### CUSTOMERS

Focus areas:

- Brand
- Segment
- Offering
- Sales/relationship approach

*"We will drive growth and build great direct consumer relations in an efficient omnichannel setup."*

### DIGITAL

Focus areas:

- Data and Architecture
- Business capabilities
- Technical debt
- Software Excellence
- Cybersecurity & Data Protection

*"We will create a secure digital infrastructure that enables growth, scale and efficiency."*

# Corporate portfolio

## Build and visualise value outside the core

Volvo Cars invests in new technology to deliver on our strategic ambitions. The investment in and creation of new companies around innovative technology and mobility solutions drive significant value creation and synergies.

Volvo Cars invests in companies and partnerships that enable us to deliver upon our strategic ambitions, improve our overall competitiveness and to gain speed.

We have co-founded and invested in several companies. The standalone setup of these companies creates focus and allows for an accelerated technology development and value creation that could be monetised also outside the Volvo Car Group.

Our key portfolio companies are Polestar, LYNK&CO, and NOVO Energy. Further we have Zenseact and HaleyTek that, although being consolidated group companies, operate more independently to ensure a focused approach to their technology areas respectively, still in close collaboration with Volvo Cars. Beyond this we seek continuous strategic investment potential through our Tech Fund.

**COLLABORATION SET-UP AS AN IMPORTANT SUCCESS FACTOR**

Collaboration within the Volvo Car Group and the wider Geely Ecosystem, in addition to partners, enables us to respond fast to the rapid transformation of the automotive industry.

# Volvo Cars Tech Fund investments

Volvo Cars Tech Fund, leveraging investments to build the collaboration platform accelerating Volvo Cars strategic and technological ambitions. The Tech Fund invests in technology start-ups across strategic verticals such as electrification, online, autonomous driving, in-car technologies, sustainability tech, and circular economy. The Tech Fund actively facilitiates collabobration opportunities between the start-ups and relevant part of the Volvo Cars business.

The Tech Fund has accelerated its investments in key strategic areas this year including Carwow (online e-commerce), Bcomp (bio-based materials), StoreDot (fast charging batteries), PowerShare (Virtual Power Plant; the very first investment in China), Viospatia (manufacturing automation), RemotiveLabs (software development tools), and further strengthened the relationship with existing portfolio companies in various areas. Through the Tech Fund, we support the start-ups with capital, know-how and strategic guidance as they grow and maneuver through this uncertain macro environment.

*"We continue to look for opportunities that have strategic relevance coupled with pivotal importance to us to accelerate Volvo Cars transformation into the future.*

**Alexander Petrofski,**
CEO Volvo Cars Tech Fund

CORPORATE PORTFOLIO

# Polestar

The Polestar brand was founded as a racing brand in 1996 and was acquired by Volvo Cars in 2015. It was established as a standalone pure play, premium electric performance automotive brand in 2017, setting market-leading standards in design, sustainability and innovation.

In June 2022, Polestar was listed at New York Nasdaq and began trading officially under the ticker "PSNY". Volvo Cars remains the largest shareholder and is a close business partner to Polestar, collaborating and supporting the growth and development of Polestar.

The close collaboration between Volvo Cars and Polestar includes sharing technologies and delivering economies of scale through shared manufacturing footprint and supply chain. Polestar has been able to start its journey as an asset light company leveraging Volvo Cars industrial operations through contract manufacturing of some of their models. Today Volvo Cars builds the Polestar 2 at our Taizhou plant in China, while our plant in Charleston US together with a plant in China will produce the Polestar 3. Polestar 2 and Polestar 3 are both underpinned by technology shared with Volvo Cars. As both brands increase in volume there are economies of scale to be found in terms of sourcing, logistics and other areas. The collaboration has shortened Polestar's time to market compared to other start-up companies and has enabled high quality production in larger volumes

Going forward, we intend to provide services to Polestar to support their growth plan and their aspiration to become one of the fastest-growing fully electric performance brands.

**OWNERSHIP: 48.3%**
**CO-OWNER: PSD INVESTMENT AND OTHER FINANCIAL INVESTORS**
**INCLUDED IN EBIT***

*Included in share of income from joint ventures and associates

## LYNK & CO

Lynk & Co is a car brand that was established in 2016, focusing on young, urban customers by offering flexible mobility through subscription services and car sharing in Europe besides traditional car sales in China. Lynk & Co has centres across China and has launched in seven European markets. In 2022, ynk&Co had 170,000 members in their community across seven markets in Europe; Netherlands, Sweden, Germany, France, Italy, Spain, and Belgium.

**OWNERSHIP: 30%**
**CO-OWNER: GEELY AUTO 50%, GEELY HOLDING 20%**
**INCLUDED IN EBIT***

*Included in share of income from joint ventures and associates

## NOVO ENERGY

NOVO Energy is a joint venture between Volvo Cars and Northvolt, with the purpose to develop and produce more sustainable batteries to power the next generation of pure electric Volvo and Polestar cars. There will be a SEK 30 Bn investment in building a R&D centre and battery cell factory in Gothenburg, Sweden. The R&D centre has started its operations in 2022 and the plant, with a 50 GWh capacity per year, is planned to be operational in 2026.

**OWNERSHIP: 50%**
**CO-OWNER: NORTHVOLT**
**INCLUDED IN EBIT***

*Included in share of income from joint ventures and associates

# Fully consolidated portfolio companies

## zenseact

Zenseact is a software company focused on developing world-leading AD and ADAS software stack. This software stack includes sensor fusion software utilising multiple sensors for object detection and positioning. Volvo Cars will launch Zenseact's software ADAS solutions and in a subsequent step also AD solutions, including upgrades in various models of the next generation Volvo and Polestar cars.

**OWNERSHIP: 100%**
**FULLY CONSOLIDATED**

## HaleyTek

HaleyTek is a company Volvo Cars owns together with ECARX that is developing Android-based infotainment software platforms. HaleyTek will customise the system used in Volvo and Polestar cars and market it to other brands within the Geely ecosystem and third parties through ECARX. The platform integrates Google Automotive Services, OEM specific UX and vehicle applications, independent of vehicle architecture variations.

**OWNERSHIP: 60%**
**CO-OWNER: ECARX**
**FULLY CONSOLIDATED**

# Values and culture

Our values combined with our behaviours creates our culture.

## Values

**Safety & Sustainability:** We protect what's important to you and the generations to come, always.

**Integrity & Trust:** We are human-centric and embrace honesty, transparency, respect, empowerment and authenticity. We take pride in our responsibilities and don't cut corners.

**Simplicity & Execution:** Based on a deep knowledge of people's needs and our ability to learn fast, we make life less complicated for our people, customers, and partners.

**Inclusion & Collaboration:** We are strongest as a team. We value differences and all aspects of diversity to innovate and create the best solutions.

**Creativity & Courage:** We explore and navigate the unknown by taking calculated risks. We bring our ideas to life and stand by our beliefs.

## Culture

We are **curious**, **collaborative**, and **courageous** working together on common goals.

Through our words and deeds, we **make the difference** and bring positive change.

We are **pioneers** in the protection of people and planet.

## Core competencies

- Build Trust
- Collaborates
- Drives Results
- Self Development

# Our Code of Conduct – Our way of doing business

The world around us is changing, and so are we. In fact, we are in the middle of the biggest transformation our company has ever seen. There are however some things that will never change – our commitment to doing business in a responsible and ethical way.

Every transformation comes with challenges and a degree of uncertainty. By staying true to our purpose, values and culture in everything that we do, we create the foundation needed to meet those challenges. It enables us to explore and navigate the unknown by taking calculated risks.

Convinced by our purpose.
Guided by our values.
Empowered by our culture.

We are a brand for people who care about other people and the world around us. By working towards climate neutrality, embracing circular economy and conducting business responsibly, we reduce our impact on the environment, contribute to a fairer and more equal society as well as support our profitable growth. Our commitment to responsible, ethical and sustainable business is embedded in the way we act – as an employer; as an employee; as a member of the wider community. This is our way of doing business:


## We...

**Care about people.** The Volvo brand has been carefully built for over 90 years and is closely associated with a focus on people, sustainability and safety. We take pride in our role within society and we are committed to respecting and promoting human rights, including children´s rights.

**Care about society and the environment.** We contribute to global and national efforts that create a better and more prosperous society – being pioneers in the protection of people. We believe that we need to lead the transformation of the automotive industry to address climate change, in addition to proactively complying with all relevant regulatory requirements to which our products and services need to conform.

**Care about our business partners.** We are curious, collaborative and courageous, aiming to build long-term relationships with our business partners, creating bonds founded on trust. When selecting business partners, we do so fairly and objectively with integrity and trust at the core of everything that we do.

**Take precautions and follow our corporate policies.** As a matter of ethical practice, we apply “precautionary principles”. This means that special precautions must always be taken whenever there is reason to believe that a potential action may negatively impact a person’s health or safety, the society or the environment.

**Encourage a culture of openness where people can raise their genuine concerns.** We encourage people to express their views and opinions, ask questions and to point out unacceptable behaviour and actions – without fear of retaliation. By doing so, we foster our Speak Up culture.

**Develop leaders that ensures our Code of Conduct come alive.** By embracing and demonstrating our five leadership competencies, our leaders act in-line with our values and as role models for our culture. Thereby creating the foundation for our Code of Conduct to be part of everything that we do.

# SUSTAINABILITY IS KEY TO OUR SUCCESS

# Our sustainability ambitions

### CLIMATE ACTION

Become climate neutral by 2040

We are taking action to reduce greenhouse gas emissions throughout our value chain, with the ambition to be aligned with the 1.5°C pathway and the goals of the Paris Agreement. It is our ambition to become a climate neutral company by 2040, while meeting ambitious interim targets by 2025 and 2030.

**MID-DECADE AMBITIONS:**

- To reduce $CO_2$ emissions by 40 per cent per average vehicle (from a 2018 baseline):
  – 50 per cent reduction in tailpipe emissions
  – 25 per cent reduction in supply chain emissions
  – 25 per cent reduction in operational emissions

**2030 AMBITIONS:**

- To meet targets verified by the Science Based Targets initiative (SBTi)*
  – 60 per cent reduction in absolute Scope 1 and Scope 2 greenhouse gas emissions (from a 2019 baseline)
  – 52 per cent reduction in Scope 3 greenhouse gas emissions (GHG) from Use of sold products per vehicle kilometre (from a 2019 baseline) (well-to-wheel)

*Our 2030 climate action ambitions are in line with the 1,5-degree pathway as verified by the Science-Based Targets initiative (SBTi) – a partnership between CDP (formerly known as the Carbon Disclosure Project), the United Nations Global Compact, World Resources Institute (WRI) and the World Wildlife Fund (WWF).

### CIRCULAR ECONOMY

Become a circular business

Volvo Cars is committed to the circular economy. We need to make better use of valuable, and often finite, material, within our vehicles, operations, supply chain and at our vehicles' end of life. Adopting circular principles will significantly reduce our environmental footprint, reduce costs, and create new revenue streams.

**MID-DECADE AMBITIONS:**

- One billion SEK in cost savings and new revenue streams annually by adopting circular economic principles (from a 2018 baseline)
- 2,500 kilo tonnes $CO_2$ emission reduction annually by adopting circular economic principles (from a 2018 baseline)
- 25 per cent recycled or bio-based materials in new vehicle models
- 40 per cent reduction in production waste per vehicle produced[8)] (from a 2018 baseline) (target strengthened from previous year)
- 40 per cent reduction in production water usage per vehicle produced[8)] (baseline 2018) (target strengthened from previous year)

### ETHICAL AND RESPONSIBLE BUSINESS

Become a recognised leader in ethical and responsible business

We strive to live our values and support a culture of ethical and responsible behaviour, at both a corporate and individual level. We support international standards and conventions, as well as the United Nations' Sustainable Development Goals.

**FOCUS AREAS:**

- Striving to set a new global people standard in our industry
- Putting sustainability on a par with quality and cost in procurement with responsible sourcing
- Maintaining a trusting relationship with our employees, customers, and business partners through ethical and responsible business conduct
- Respecting and protecting the rights of people throughout our value chain
- Promoting sustainable financing

FOR FURTHER DEFINITIONS, REPORTING PRINCIPLES AND SOURCES SEE PAGE 194–196

*We commit to the highest standard of sustainability in mobility.*

At Volvo Cars, sustainability is as important as safety. We aim to be pioneers in protecting people and the planet by working towards climate neutrality, embracing the circular economy, and conducting business responsibly. We believe doing this, in partnership with others, ensures we help address global sustainable development challenges and support our profitable growth. Sustainability is central to our business and, quite simply, key to our future success.

Carbon/$CO_2$ – including carbon dioxide equivalents

**CLIMATE ACTION:** PERFORMANCE 2022

# Become climate neutral by 2040
## – with clear mid-decade ambitions

We aim to become a climate-neutral company by 2040 and have set interim targets on the way to achieving this ambition. We are seeking to reduce the carbon footprint by 40 per cent on an average vehicle between 2018 and 2025 (over 200 000 km of driving).

**50%**

**REDUCTION IN TAILPIPE EMISSIONS**

We intend to achieve this ambition by ensuring that 50 per cent of our global sales are from fully electric vehicles by 2025, through continuing the ongoing electrification of our full product offering and launching new electric models.

**HIGHLIGHTS IN 2022:**

- Launch of the Volvo EX90, our third fully electric vehicle.
- Second €500M Green Bond issued, dedicated entirely to supporting our rapid electrification program.
- Joining the Accelerating to Zero Coalition at COP27, which is a platform committed to driving the adoption of zero tailpipe-emission mobility.
- Volvo Cars Australia and Volvo Cars Thailand have announced they will sell only all-electric vehicles from 2026.

READ MORE ON PAGE 154

**25%**

**REDUCTION IN SUPPLY CHAIN EMISSIONS**

We intend to achieve this ambition by supporting the use of climate-neutral energy in our suppliers' operations. We are taking action to reduce emissions in carbon-intensive industries, such as steel, aluminium and battery production.

**HIGHLIGHTS IN 2022:**

- Became the first automotive company to join the SteelZero initiative, which aims to accelerate decarbonisation of the steel industry.
- Announced plans for a battery manufacturing facility in Gothenburg, in a joint venture with Northvolt. When completed, the new plant will be powered by climate-neutral energy.

READ MORE ON PAGE 155

**25%**

**REDUCTION IN OPERATIONAL EMISSIONS**

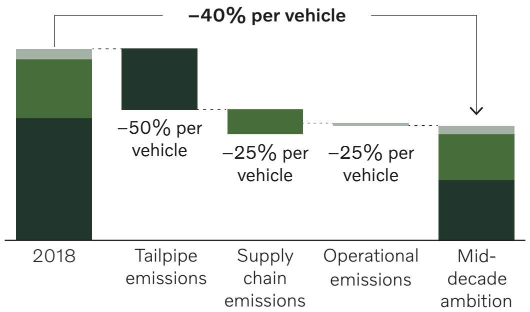
We intend to achieve this ambition by reaching 100 per cent climate neutrality in our own operations (manufacturing and non-manufacturing) by 2025 as well as reducing emission from logistics, retailers, commuting and business travel.

**HIGHLIGHTS IN 2022:**

- 66 per cent of our manufacturing operations were powered by climate-neutral energy, and over 94 per cent consume climate-neutral electricity.
- Announced plans to build a climate-neutral, all-electric car plant in Slovakia.

READ MORE ON PAGE 155–156

**$CO_2$ REDUCTION AMBITIONS**
($TONNES CO_2$ PER VEHICLE)




**KEY DRIVERS**

**TAILPIPE EMISSIONS**
- All-electric vehicles to account for 50 per cent of sold vehicles by 2025

**SUPPLY CHAIN EMISSIONS**
- 100 per cent climate neutral energy at Tier 1 supplier sites
- Increasing use of recycled and fossil-free materials
- Efficient battery supply and production

**OPERATIONAL EMISSIONS**
- Climate neutral manufacturing and non manufacturing operations by 2025
- More rail and less air freight in logistical operations

**CLIMATE ACTION:** PERFORMANCE 2022

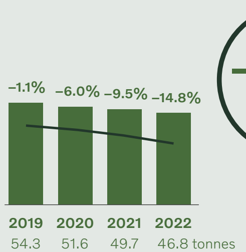
## DEVELOPMENT 2022

- **$CO_2$ emissions** per average vehicle decreased by 15 per cent, in comparison with our 2018 baseline.
- **Tailpipe emissions** per average vehicle decreased by 32 per cent, in comparison with our 2018 baseline, due to strong demand for our Recharge vehicles. We are looking into the development of renewable electricity for vehicle charging to further reduce the emissions from an electric car. Our newly launched Volvo EX90 will offer bi-directional charging, with the capability to support power grids.
- **Supply chain emissions** per average vehicle increased by 20 per cent, in comparison with our 2018 baseline, due to increased weight and materials used in our Recharge vehicles. We are seeking to limit these emissions by increasing our use of recycled materials and supporting consumption of climate-neutral energy among our suppliers. We estimate that these measures will have a noticeable positive impact by 2025.
- **Operational emissions** per average vehicle remained flat, in comparison with our 2018 baseline. Our global manufacturing plants and offices are progressing well towards their climate targets. However, we saw increased $CO_2$ emissions from our logistics operation during 2022 due to supply chain disturbances.
- **Total $CO_2$ emissions** decreased by 3 per cent compared to 2021 due to increased sales of electrified vehicles, progress towards climate neutrality in our manufacturing and non-manufacturing facilties as well as a reduction in emissions at our retail partners.

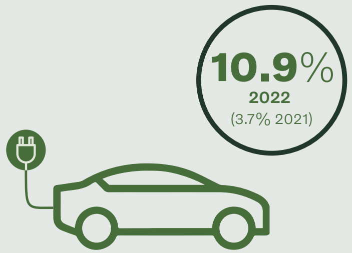
| Climate action KPIs (%) | Mid-Decade Ambitions | 2030 Ambitions | 2022 | 2021 | 2020 | 2019 |
|---|---|---|---|---|---|---|
| $CO_2$ emission reduction per vehicle[1,2,3] (baseline 2018) | –40 | — | –14.8 | –9.5 | –6.0 | –1.1 |
| Tailpipe $CO_2$ emission reduction per vehicle (baseline 2018) | –50 | –100 | –31.5 | –21.6 | –12.6 | –3.1 |
| Supply chain $CO_2$ emission reduction per vehicle (baseline 2018) | –25 | — | 19.9 | 16.8 | 7.7 | 3.2 |
| Operations $CO_2$ emission reduction per vehicle (baseline 2018) | –25 | — | 0.0 | 0.0 | 0.0 | 0.0 |
| Fully electric vehicles (BEVs) sold | 50 | 100 | 10.9 | 3.7 | 0.7 | — |
| Energy usage reduction per vehicle in manufacturing operations[8,11,21] (Baseline 2018) | –30 | — | –13 | –7 | –12 | –7 |
| Climate neutral energy in manufacturing operations[11,21] | 100 | 100 | 66 | 62 | 53 | 50 |
| Climate neutral energy at T1 suppliers[9] | 100 | 100 | 19.0 | 8.5 | 6.0 | — |
| Share of Tier 1 suppliers having signed a commitment to reach 100% climate neutral energy by 2025 | 100 | 100 | 12.0 | — | — | — |

For further definitions and reporting principles see page 194–196.

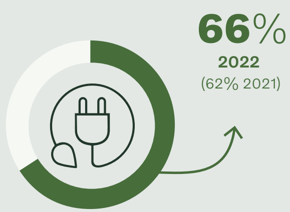
### $CO_2$ EMISSIONS REDUCTION PER CAR.




### FULLY ELECTRIC VEHICLES (BEVS) SOLD




### CLIMATE NEUTRAL ENERGY IN MANUFACTURING OPERATIONS




**CIRCULAR ECONOMY:** PERFORMANCE 2022

# Becoming a circular business

Circular business will require a successful decoupling of growth from resource use

## Overarching ambitions for circular business:

In 2025 we aim to annually:

→ Generate cost savings and new revenue streams worth one billion SEK*
→ Reduce our value chain $CO_2$ emissions by 2,500 kilo tonnes *

## We apply three principles throughout our value chain:

1. Use less resources by improving efficiency, making materials circular and circulating them at maximum value
2. Eliminate all waste and pollution by designing products and operations for long and high utilisation lifecycles
3. Enable growth beyond vehicle sales by offering services and solutions to all Volvo users and products

Circular Business continued to grow in prominence within Volvo Cars as it has done in the financial, political and societal areas globally. Each tonne of material used impacts planetary boundaries and has social implications. While the information we have to quantify this impact is still improving we understand we must act now to ensure our products, operations and business can thrive. According to our research, above 90 per cent of total materials used in the production of an all-electric XC40 occurs in the supply chain, primarily through mining and material processing. Reducing use of of virgin resources and increasing the use of recycled materials will enable us to achieve climate neutrality and reduce our impact on biodiversity, water degradation, pollution, and land use.

Circular Business initiatives, such as component value retention (reuse, remanufacturing, repair and refurbishing), mobility-as-a-service, waste trading and improved utilisation of resources also contributes to revenue, savings and profitability.

In 2023 we will release our strategy on how to become a circular business. The plan will outline our short-, medium- and long-term ambitions and support our company-wide objectives and key results including our definition of what circular business means to us.

*2018 baseline

## We are focusing on the following key areas:

### IMPACT OF CIRCULAR BUSINESS

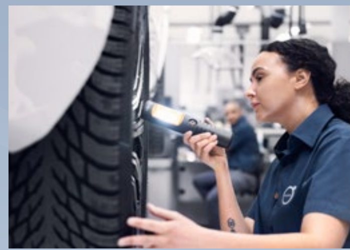
Circular business enables climate neutrality and reduces the impact on other planetary boundaries while at the same time making good business sense.

READ MORE ON PAGE 157–158

### RESOURCE VALUE RETENTION

In order to decouple resource use and business growth, we need to minimise resource use and ensure that we use all extracted resources to their highest potential.

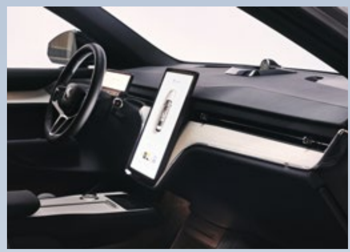
READ MORE ON PAGE 158–161



### COMPONENT VALUE RETENTION

We aim to optimise and extend the life of components and displace new ones through reuse, remanufacturing, and repair.

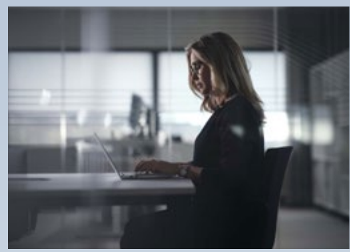
READ MORE ON PAGE 161



### PRODUCT VALUE RETENTION

Our upcoming vehicles will be designed to optimise the value retention of components and materials.

READ MORE ON PAGE 162



### BUSINESS AND PARTNERSHIPS

Internal systems to track progress and external partnerships are being established to enable value chain transition.

READ MORE ON PAGE 163

### WASTE ELIMINATION

We are going to reduce production waste with 40% by 2025* and push to reduce waste drastically in the supply chain.

READ MORE ON PAGE 163

## CIRCULAR ECONOMY: PERFORMANCE 2022

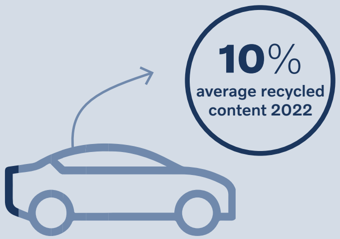
### DEVELOPMENT 2022

- In 2022 we established our baseline impact across the value chain and started to identify the requirements for upcoming vehicle programs to understand the level of circularity needed to ensure alignment with our circular and climate-neutral ambitions.
- The Volvo EX90 includes the highest quantity of recycled and bio-based plastics of any Volvo to date (48 kg –15 per cent). Furthermore, the Volvo EX90 contains around 15 per cent recycled steel and 25 per cent recycled aluminum.
- We started a cross-company transition program to tackle priority areas such as: materials, components, products, and business & partnerships. This is on the Executive Management Team's agenda on a quarterly basis.
- We developed a comprehensive circular business training package for employees that will be introduced in 2023. The program aims to encourage collective contributions to circular business within the company.
- We have started working with battery recyclers in China to develop battery material closed loops.
- We have quantified our biodiversity footprint across the value chain and initiated work to develop a strategy and action plan.
- Manufacturing water and waste actions meant 2025 targets were met early so new ambitious mid-decade targets have been set.
- Non-manufacturing has conducted an extensive baseline assessment of waste generation and water use.
- A new team has been set up within Design to investigate complex challenges, including applying circular economy principles in products.

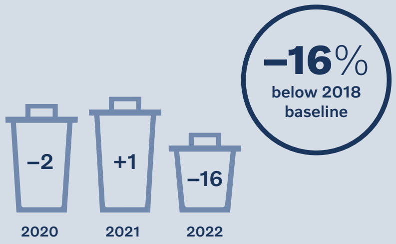
| Circular economy KPIs (%) | Mid Decade Ambitions | 2030 Ambition | **2022** | 2021 | 2020 | 2019 |
|---|---|---|---|---|---|---|
| Recycled and bio-based materials[22,23)]* | 25 for new vehicle models | — | 10 | 10 | — | — |
| Recycled plastics and bio-based materials[22,24)]* | 25 for new vehicle models | — | 4 | 4 | — | — |
| Recycled steel[24)]* | 25 for new vehicle models | — | 15 | 15 | — | — |
| Recycled aluminium[24)]* | 40 for new vehicle models | — | 10 | 10 | — | — |
| Production waste reduction per vehicle [8,11,21)] (Baseline 2018) | –40 | — | –16 | 1 | –2 | –2 |
| Water usage reduction per vehicle in manufacturing[8,11,21)] (Baseline 2018) | –40 | — | –30 | –23 | –8 | –5 |

*Based on estimates.
For further definitions and reporting principles see page 194–196.

**RECYCLED MATERIAL**
25% in new models 2025




**WASTE REDUCTION PER CAR IN MANUFACTURING**




**WATER USAGE REDUCTION PER CAR IN MANUFACTURING**


**ETHICAL & RESPONSIBLE BUSINESS:** PERFORMANCE 2022

# Become a recognised leader in ethical and responsible business

Ethical and responsible business is fundamental to our brand, both at corporate and individual level. We believe it attracts talent and investors, minimises the risk of reputational damage and improves stakeholder engagement. Conducting ethical and responsible business also helps us address environmental and social challenges within the automotive industry.

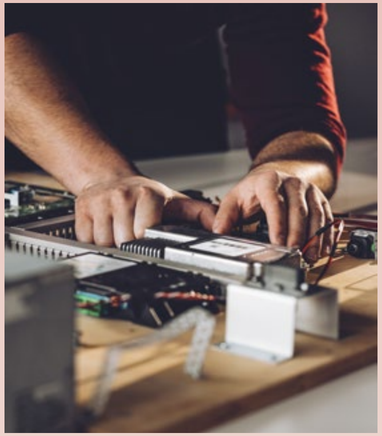
We support the United Nations Sustainable Development Goals (SDGs) and reflect the values of the international norms of behaviour and guidelines, in our Code of Conduct (Our Code – How We Act). We recognise that conducting responsible business is good for the continued profitability of our company. Where possible, we work in partnership with our stakeholders to promote positive change in our industry. Our corporate culture focuses on ethics and leadership, as well as equal opportunities and decent working conditions for all.

## We are focusing on the following key areas:

### STRIVING TO SET A NEW GLOBAL PEOPLE STANDARD IN OUR INDUSTRY

We aim to offer a sustainable work life, including diverse, inclusive and safe workplaces. We seek to promote a culture of continuous improvement.

READ MORE ON PAGE 164–171



### RESPONSIBLE SOURCING

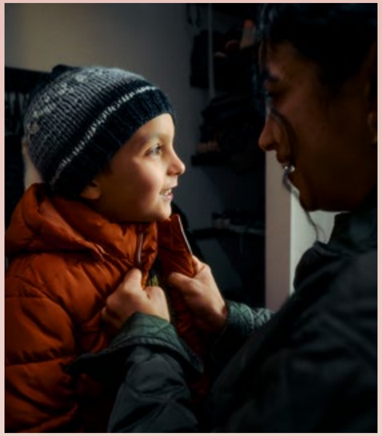
We put sustainability on a par with cost and quality by selecting and collaborating with suppliers that support our ambitions and help drive sustainability throughout our supply chain.

READ MORE ON PAGE 172–176

### ETHICAL & RESPONSIBLE BUSINESS CONDUCT

Being trustworthy in relationships with employees, customers, and business partners and maintaining a corporate culture that is committed to ethical and responsible behaviour.

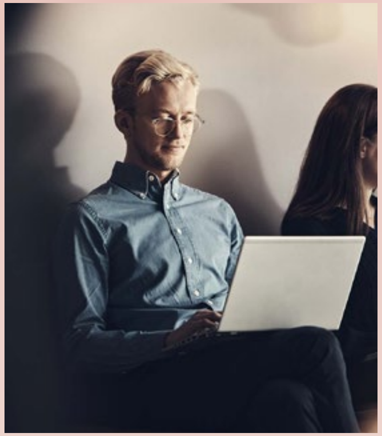
READ MORE ON PAGE 177–179



### SAFEGUARDING HUMAN RIGHTS

We see respecting human rights as vital to demonstrating leadership in ethical and responsible business. We seek to respect the rights of people throughout our value chain by continuously improving our human rights risk-based due diligence to identify, cease, prevent and remedy any human rights violation.

READ MORE ON PAGE 180



### SUSTAINABLE FINANCE

We engage in sustainable financing and recognise the potential of the financial community to drive sustainable development.

READ MORE ON PAGE 181–190

## ETHICAL & RESPONSIBLE BUSINESS: PERFORMANCE 2022

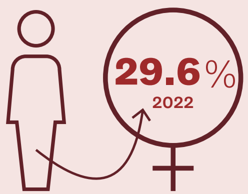
### DEVELOPMENT 2022

- Since increasing our efforts around gender diversity during 2022 we have developed a better way to follow-up on diversity and will during 2023 introduce a new inclusion KPI. Broadening the focus from inflow of leaders to retention and development of our employees.
- Our Engagement Survey continues to be an important source of information and we have during this year evolved how we utilise the findings it gives. We are proud to stay above benchmark during these turbulent times. During 2023 we will continue our data driven approach to people experience.
- Initiated the project aiming at establishing an enhanced Due Diligence Design program (DDD), which aims to prepare the company for forthcoming human rights due diligence legislations and supports our ambition to be leaders in ethical and responsible business. The program DDD is an inter-departmental effort, driven by representatives from different parts of the organisation who are operationally responsible for our ongoing and future human rights due diligence work.
- Volvo Cars supported children and their families fleeing the war in Ukraine through financial support to UNICEF and Save the Children, as well as providing these organisations with vehicles for use by their teams in Ukraine, neighbouring countries and Sweden. Furthermore, an IT-focused fast track recruitment scheme was initiated to enable suitably qualified refugees from Ukraine to secure rapid employment.
- A project was launched to further develop our responsible sourcing management system for Volvo Cars' Materials of Concern. The project expands our battery supply chain audit programme, covering all tiers of the supply chain for several battery raw materials.
- Second €500M Green bond issued, and two Green loan facilities entered. These will finance and be part of enabling and conducting the research and development of Volvo Cars' second-generation BEV architecture and state-of-the-art electric propulsion technology. They also support the company's mid-decade ambition to have all Outstanding Debt in a green or sustainability-linked format.

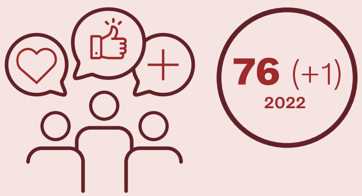
| KPI Table | Mid Decade Ambition | 2030 Ambition | 2022 | 2021 | 2020 | 2019 |
|---|---|---|---|---|---|---|
| Employee engagement (Score and Benchmark) | Score +4 compared to global benchmark | Score +5 compared to global benchmark | 76 (+1) | 76 (0) | 75 (+1) | — |
| Women in Senior Leadership[30] (%) | 34 | 38 | 29.6 | — | — | — |
| Women in leading positions[31] (%) | — | — | 29.2 | 29.0 | 28.3 | 28.3 |
| Women in external recruitment and internal promotion for leading positions (%) | — | — | 31.0 | 32.0 | 29.4 | — |
| Injury rate (Lost Time Case Rate)* employees | 0.05 in 2023 | — | 0.07 | 0.06 | 0.10 | 0.13 |
| Share of green debt or sustainability-linked financing of assets eligible under the Green Financing Framework as percentage of Outstanding Debt[44] (%) | 100 | 100 | 41.6 | 20.2 | 14.5 | 0.0 |

*Injury rate (LTCR) is defined as the number of work and occupational accidents reported with at least one day sick leave, divided by hours worked and multiplied by 200,000.
For further definitions and reporting principles see page 194–196.

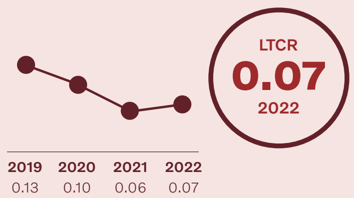
### WOMEN IN SENIOR LEADERSHIP




### EMPLOYEE ENGAGEMENT




### INJURY RATE EMPLOYEE (LTCR)




# Value chain

## Key activities and ambitions


RAW MATERIAL SUPPLIER | TIER-N SUPPLIERS | TIER-1 SUPPLIERS | UPSTREAM TRANSPORTATION & DISTRIBUTION | OWN OPERATIONS | DOWNSTREAMS TRANSPORTATION & DISTRIBUTION | RETAIL PARTNERS | USAGE AND MAINTAINENCE | END OF LIFE TREATMENT

**AIMING FOR 40% EMISSION REDUCTION PER VEHICLE 2025***

SUPPLY CHAIN EMISSIONS –25%* | OPERATIONAL EMISSIONS –25%* | TAILPIPE EMISSIONS –50%* | OPERATIONAL EMISSIONS –25%*

## UPSTREAM

### CLIMATE ACTION

- Aiming to increase usage of low emission aluminium and steel
- All suppliers to disclose data on emissions and energy use for each manufacturing site
- Aiming for all Tier 1 suppliers to use 100% climate neutral energy 2025
- Aiming for best possible transport mode including electrification and renewable fuals

### CIRCULAR ECONOMY

- Investigations into direct sourcing of materials for e.g. battery materials
- Biodiversity impact assessment completed
- Partnerships with commodity material providers
- Waste reduction target for T1 Suppliers.
- Recycled content targets for our materials.
- Design for logistics

### ETHICAL & RESPONSIBLE BUSINESS

- Audits of raw material suppliers and mine sites
- Traceability of materials of concern
- Better Mining
- Identification of high risk suppliers
- RMAP compliant 3TG smelters
- Blockchain technology
- Audit and assessment of suppliers
- Code of Conduct for Business Partners
- Supplier due diligence assessments
- Conflict Minerals Reporting Template (CMRT)
- Logistics as an integrated part of responsible sourcing

## OWN OPERATIONS

### CLIMATE ACTION

- Internal carbon price of 1,000 SEK for every tonne of $CO_2$ emissions
- ISO14001 compliant
- Aiming for 30% energy usage reduction per vehicle in manufacturing 2025*
- 100% climate neutral energy in manufacturing and non-manufacturing 2025

### CIRCULAR ECONOMY

- Aiming for 40% waste reduction of production waste by 2025*
- Design our cars for circularity
- Aiming for 40% water reduction in manufacturing by 2025*
- 25% recycled and bio-based materials in new car models from 2025*
- Developing a strategy to avoid, prevent and restore nature loss related to our main impact areas

### ETHICAL & RESPONSIBLE BUSINESS

- Aiming for 34% women in Senior Leadership positions by 2025
- Transparent ESG reporting and third party validation
- Code of Conduct trainings
- People Policy Assessments
- Employee engagement score above benchmark
- Family Bond implemented
- Green financing including green bonds and sustainability linked loans

## DOWNSTREAM

### CLIMATE ACTION

- Optimisation of the logistic network
- Aiming for 50% reduction of retailer emissions 2025*
- Aiming for 50% fully electric vehicle sales in 2025
- Aiming for 100% fully electric vehicle sales in 2030

### CIRCULAR ECONOMY

- Minimising waste and packaging for spareparts
- Waste data baseline established for our retail network
- Volvo on demand, service for increasing shared mobility
- Prolonging life of products through repair of cars and remanufacturing of parts
- 85% of the vehicles' weight can either be reused or recycled, and a minimum of 95% of the vehicle can be recovered.

### ETHICAL & RESPONSIBLE BUSINESS

- Logistics as an integrated part of responsible distribution
- Code of Conduct for Business Partners
- Retailer audits
- Public Product LCAs (Lifecycle Analysis) for every new BEV vehicle

* Baseline: 2018

# DIRECTORS' REPORT

# Board of Directors’ Report

### The Volvo Car Group

Volvo Car AB (publ.) together with its wholly-owned subsidiary Volvo Car Corporation and its subsidiaries are jointly referred to as “Volvo Car Group” or “Volvo Cars”.

Volvo Car AB (publ.), with its registered office in Gothenburg, Sweden, is a publicly listed company on the Nasdaq Stockholm Stock Exchange. The largest owner, holding 82 per cent of shares and capital, is Geely Sweden Holdings AB, owned by Shanghai Geely Zhaoyuan International Investment Co., Ltd., registered in Shanghai, China, and ultimately owned by Zhejiang Geely Holding Group Ltd., registered in Hangzhou, China.

Volvo Car AB (publ.) holds shares in its subsidiary Volvo Car Corporation and provides the Group with certain financing solutions. Volvo Car AB (publ.), indirectly through Volvo Car Corporation and its subsidiaries, operates in the automotive industry with business relating to design, development, manufacturing, marketing and sale of cars and thereto related services.

### Volvo Cars sales development

Despite an encouraging quarter four, the global passenger car market continued to be impacted by supply constraints in 2022. China and Europe declined by 3 per cent and 5 per cent respectively. The US declined by 8 per cent. Since 2020, global automotive production has been at sub-optimised levels not fully meeting customer demand, due to production constraints. 2022 marked as the third year of production constrains due to continued semiconductor shortages and the covid-19 restrictions in China. The strong demand in combination with limitations on the supply, continued to support positive price realisations and mix effects. 2022 was also a year of record growth in electrified cars. The development, fueled by EV incentives and tax benefits, was mainly from increasing customer demand.

Volvo Cars’ production was constrained due to semiconductor shortages and covid-related lockdowns in China. The demand for Volvo Cars’ products during the year was higher than the production pace leading a high order book. The production volumes only increased by 1 per cent compared to 2021, but decreased by 1 per cent compared to 2020. As a result, retail sales decreased by 12 per cent and wholesales decreased by 3 per cent compared to 2021.

Volvo Cars also strongly increased the sales of BEV vehicles, growing, 159 per cent compared to 2021, reaching 11 (4) per cent share of total sales. Total recharge cars share reached 33 (27) per cent of total sales.

| Key ratios, MSEK | 2022 | 2021[1] | 2020 | 2019 | 2018 |
|---|---|---|---|---|---|
| Retail sales, units[2] | 615,121 | 698,693 | 661,713 | 705,452 | 642,253 |
| Revenue | 330,145 | 282,045 | 262,833 | 274,117 | 252,653 |
| Research and development expenses[3][4] | –11,514 | –12,714 | –11,362 | –11,446 | –10,903 |
| Operating income, EBIT[5] | 22,332 | 20,275 | 8,036 | 14,303 | 14,185 |
| EBIT excl. share of income from JVs and associates[5] | 17,889 | 21,226 | 8,388 | 14,471 | 14,118 |
| Net income[4] | 17,003 | 14,177 | 7,308 | 9,603 | 9,781 |
| Basic earnings per share, SEK[4] | 5.23 | 4.72 | 2.19 | N/A | N/A |
| EBITDA[5] | 38,423 | 35,280 | 22,578 | 29,851 | 27,398 |
| Cash flow from operating activities[4] | 33,599 | 29,852 | 34,890 | 32,374 | 26,765 |
| Cash flow from investing activities[4] | –39,658 | –34,737 | –21,608 | –20,801 | –22,060 |
| Net cash[5] | 38,061 | 44,846 | 35,241 | 25,214 | 18,029 |
| Gross margin, %[5] | 18.3 | 21.6 | 17.5 | 19.0 | 19.5 |
| EBIT margin, %[5] | 6.8 | 7.2 | 3.1 | 5.2 | 5.6 |
| EBIT margin % excl. share of income from JVs and associates[5] | 5.4 | 7.5 | 3.2 | 5.3 | 5.6 |
| EBITDA margin, %[5] | 11.6 | 12.5 | 8.6 | 10.9 | 10.8 |
| Equity ratio, % | 35.4 | 33.4 | 26.8 | 26.2 | 29.0 |
| Return on invested capital, ROIC, %[5] | 16.7 | 18.6 | 7.9 | 14.5 | 16.1 |

1) In 2022, there has been a change in the elimination of internal profit related to sale of digital services within the Group. This change has resulted in a decrease of cost of sales, research and development expenses and selling expenses against an increase of administrative expenses. The figures for 2021 have been adjusted accordingly. The reclassification has no impact on EBIT.
2) Non-financial operating metric.
3) The amortisation expenses for 2020 were affected by adjustments of the useful life period to reflect updated assumptions and cycle plan changes.
4) IFRS measure.
5) Non-IFRS measure (alternative performance measure), see Alternative performance measures on page 136.

| Retail sales (k units) | 2022 | 2021 | Change % |
|---|---|---|---|
| Europe | 247.4 | 293.5 | –16 |
| China | 162.3 | 171.7 | –5 |
| US | 102.0 | 122.2 | –16 |
| Other | 103.3 | 111.4 | –7 |
| **Retail sales total** | **615.1** | **698.7** | **–12** |
| Recharge line-up vehicles | 205.4 | 189.2 | 9 |
| *whereof BEV vehicles* | *66.7* | *25.7* | *159* |
| Recharge line-up share of sales | 33% | 27% | |
| *whereof BEV share of sales* | *11%* | *4%* | |
| Wholesales | 631.7 | 654.4 | –3 |
| Production volume | 648.9 | 642.0 | 1 |

| Retail sales by model (k units) | 2022 | 2021 |
|---|---|---|
| XC40 BEV | 42.5 | 24.5 |
| C40 BEV | 24.2 | 1.2 |
| XC60 | 195.4 | 215.6 |
| XC40 ICE/PHEV | 126.7 | 176.5 |
| XC90 | 97.1 | 108.2 |
| V60 | 42.9 | 56.1 |
| S60 | 39.5 | 49.3 |
| S90 | 32.1 | 46.6 |
| V90 | 14.7 | 20.7 |
| **Total** | **615.1** | **698.7** |

| Top 10 retail sales by market (k units) | 2022 | 2021 |
|---|---|---|
| China | 162.3 | 171.7 |
| US | 102.0 | 122.2 |
| Sweden | 45.7 | 47.8 |
| UK | 36.5 | 48.3 |
| Germany | 35.8 | 43.8 |
| Japan | 16.2 | 16.6 |
| Italy | 16.0 | 19.8 |
| Korea | 14.4 | 15.1 |
| France | 13.7 | 18.9 |
| Norway | 11.1 | 15.1 |

## Events during the year

### *Volvo Cars and Northvolt accelerate shift to electrification*

In February, the construction of a battery manufacturing plant in Gothenburg, Sweden, was announced as part of our joint venture with Northvolt, which is key to our strategic ambitions in electrification. The plant is planned to open in 2025, with an annual cell production capacity of up to 50 gigawatt hours (GWh). It will be powered entirely by fossil-free energy, significantly reducing emissions from one of the most carbon-intensive elements of EV production. The investment will also create up to 3,000 new jobs.

### *Volvo Cars to invest SEK 10 bn in Torslanda plant for next generation fully electric car production*

With its next generation of pure electric cars, Volvo Cars aims to offer customers a longer range, quicker charging and lower costs, and reach new milestones in automotive safety and sustainability. To realise these ambitions, an investment of SEK 10 billion in our Torslanda plant were announced for the coming years, to prepare for the production of our next generation of fully electric vehicles. As part of the planned investments, the company will introduce a number of new and more sustainable technologies and manufacturing processes in the plant. These include the introduction of mega casting of aluminium body parts, a new battery assembly plant and fully refurbished paint and final assembly shops.

The investments follow on the above described announcement by Volvo Cars and Northvolt, the leading battery cell company, to invest SEK 30 billion in the development and manufacturing of high-quality, tailor-made batteries for the next generation of pure electric Volvo models. Both investment plans represent new steps towards Volvo Cars' ambition to be a fully electric car company by 2030 and reflect the company's commitment to a long-term future in its hometown of Gothenburg.

### *Volvo Cars gears up for long-term sustainability growth with new Slovakia electric car manufacturing plant*

Volvo Cars announced the upcoming establishing of a third manufacturing plant in Europe in order to positioning the company well to meet the continued demand from its customers for electric cars and capture future growth potential. The new facility represents an investment of around EUR 1.2 billion and it will be located close to Kosice, in the eastern part of Slovakia, where it will benefit from a well-established automotive supply chain as it becomes the fifth car plant in the country.

The new state-of-the-art plant will be climate neutral and build only electric cars, underpinning our ambition to become fully electric by 2030 and climate neutral by 2040, and to continue expanding its global production capacity to match our growth ambitions.

### *Volvo EX90 premiere*

The new, fully electric Volvo EX90 was launched in Stockholm on 9 November and represents the start of a new era for Volvo Cars in which we set a decisive course for a fully electric future and further raises our standards in safety and a more sustainable lifestyle. Production is planned to start in 2023.

### *Over-The-Air (OTA) updates*

With OTA, Volvo Cars will deliver customer value remotely over the car's lifecycle. We are strengthening our position as one of the industry leaders when it comes to updating car software over the air.
A milestone was achieved of over one million installations to Volvo cars through OTA updates in markets across the globe and the rollout continues. Our latest update includes many features such as: the ability to issue voice commands through Google Assistant-enabled devices and launching a wider introduction of our Care Key technology, bringing integrated connectivity in additional markets and various updates and stability improvements. The total number of markets covered by the update has increased to 68, which constitutes more than half of all markets globally in which over 95 per cent of Volvo cars are sold and we expect the number of cars covered by the OTA updates to grow with every new release.

### *Volvo Cars tech hub in downtown Stockholm*

In December, a new Volvo Cars tech hub was inaugurated in Stockholm, Sweden, creating a workspace for more than 700 professionals in software engineering, data science and analytics, online business and user experience. The Stockholm tech hub is the latest in a series of new tech-focused facilities we are developing. Last month, we inaugurated a new tech hub at our Bangalore campus in India and since before, we have a tech hub in Lund, Sweden.

### *Volvo Cars re-confirms mid-decade ambitions at Capital Markets Day*

Volvo Cars re-confirmed its mid-decade ambitions at the company's first ever Capital Markets Day in Stockholm, as senior management gave shareholders and analysts an update on its progress towards those ambitions.

***Volvo Cars is further anchoring its ambition of only raising green and sustainable debt***

In May, we successfully issued our second green bond to raise EUR 500m from a diverse set of global investors. The bond was oversubscribed three-times, despite challenging global market conditions. All proceeds are earmarked for funding and accelerating our transformation towards becoming a fully electric carmaker by 2030 and becoming climate neutral and circular by 2040. Moreover, we entered into our first bilateral loan under the Green Financing Framework, a new SEK 1 bn green loan facility, partly refinanced our matured SEK 4 bn loan facility with Svensk Exportkredit.

***Volvo Cars welcomes Polestar listing at Nasdaq in New York***

As the largest shareholder in the Swedish electric performance car company Polestar, Volvo Cars welcomed the closing of the listing of Polestar on the Nasdaq stock exchange in New York on 24 June. It is an important milestone for the strategic collaboration between both Polestar and Volvo Cars that includes driving deep industrial synergies and sharing technologies. This is an important proof point of our electrification strategy and the objective to establish Polestar as a standalone brand contributing to the electric transformation of the automotive industry.

***Volvo Cars supports the future growth of Polestar***

Acting on its commitment to support the growth and development of Polestar, Volvo will be providing financial support in the form of an 18-month term loan, amounting to a total of USD 800M. The loan includes an option for Volvo Cars to convert to equity on a pro rata basis in a potential future equity raise by Polestar.

***Volvo Cars divested its holding in Aurobay to Geely Holding***

Volvo Cars has a strategic direction to become fully electric by 2030 and shape the future of mobility. In line with those strategic ambitions of ending our involvement with combustion engine development and production, Volvo Cars divested its 33 percent holding in Aurobay to Geely Holding in November, to focus and invest in the development of fully electric powertrains. During the transition period towards 2030, Aurobay will continue to supply Volvo Cars with engines for our hybrid and mild hybrid powertrain variants, as long as we sell those. The proceeds from selling our 33 per cent stake in Aurobay will be reinvested in our plant in Skövde in Sweden, where we're in the process of setting up a new production line for electric motors.

***Zenseact now 100% owned by Volvo Cars***

Volvo Cars has taken 100 per cent ownership of its autonomous driving (AD) software development subsidiary, Zenseact. Immediately prior to the transaction, Volvo Cars owned 86.5 per cent in the firm and has now acquired the remaining stake from ECARX, a global mobility tech company. By fully owning the company it will bring us even closer together and it is a strategic step for us towards fully owning the software going into our cars, supporting our strategic direction to be a leader in new technology.

***Volvo Cars implemented a new organisation***

Volvo Cars has a strategic direction to become fully electric by 2030 and shape the future of mobility, with strong ambitions on growth and sustainability. To achieve our ambitions and fulfil our purpose the company has now fine-tuned leadership responsibilities within Volvo Cars. Our strategic direction is clear, and with the customer in focus, we will create value through technology and product development, digital and software capabilities. The new organisation will consist of a smaller Executive Management Team and a broader Group Management Team, simplifying the structure with clear responsibilities focusing on increased execution speed.

***COVID-19***

The COVID-19 pandemic continued to have an impact on people's lives around the world. In China, varieties of lockdowns were in place during 2022, causing impacts on production, sales and supply chain. Since December, the lifted COVID-19 restrictions in China had a positive impact on production run rate. Given the uncertain development of the pandemic, Volvo Cars remains cautious and diligently monitor the development.

***The war in Ukraine***

In February 2022 the war in Ukraine started and still continues to have a negative impact on Europe and increased the risks to the global economy as a whole. The war has led to accelerating increases in the cost of raw materials, energy and freights. This has further increased inflationary pressures in the global economy and worsened already stretched global supply chains. The risk of further disruption to Russian gas flows also increased. Given that many automotive parts suppliers rely on natural gas, a lower supply may cause disruption to these supply chains. Volvo Cars is continuously evaluating the situation. Volvo Cars has suspended its operations in Russia during 2022, without significant financial effects.

***Global shortage of semiconductors***

The semiconductor constraints have gradually improved, but the underlying global shortage remained a concern, which resulted in higher production costs and carried risks of further production disruptions. Volvo Cars is continously working with suppliers and partners to follow the development closely and resolve any disturbances to production and delivering vehicles to customers as soon as possible. To what extent Volvo Cars' sales, revenue and profitability will be affected in coming periods remains uncertain. Visibility has improved, however, the risk of further disturbances in production remains.

***Changes in Board of Directors and the Executive Management Team***

*Changes to the Board of Directors*

- Jim Rowan joined Volvo Cars in March, 2022, as CEO and President. Prior to this, Jim was the CEO and Board member of Ember Technologies, and previously Group CEO of the Dyson Group.
- Håkan Samuelsson left his position as CEO and President. He had been in this position since October 2012, and before that he was a member of the board for two years.
- Anna Mossberg joined the board during 2022.
- Betsy Atkins, Michael Jackson and Jim Zhang left the board during 2022.
- Among the employees representatives, Glenn Bergström left the board, and Marie Stenqvist joined.

*Changes to the Executive Management Team*

- The EMT undertook a major organisational change in June, when it was decreased to the seven present members. See further described under significant events "Volvo Cars implemented a new organisation".
- Björn Annwall was appointed Chief Commercial Officer & Deputy CEO in June, 2022.
- Johan Ekdahl was appointed Chief Financial Officer effective September 2022, after being Volvo Cars' acting CFO since June 2022, succeeding Björn Annwall.

## Research and development

To accelerate to full electrification, in the beginning of the year, we announced, together with Northvolt and our joint venture company NOVO Energy, that will establish a new battery manufacturing plant as well as a research and development centre. The R&D centre opened during 2022 and will engage in the development of new battery technology.

In the field of connectivity, we continued our partnership with Google. We were the first auto brand to team up with Google on integrating an infotainment system powered by Android with Google apps and services built in. As earlier communicated Volvo Cars has rolled out its new Android-powered infotainment system with Google first in the XC40 Recharge, C40 and thereafter in steps to other models. From model year 2023 all Volvo models are equipped with Google infotainment, where available.

In November, we revealed the new Volvo EX90. The new Volvo EX90 is the most advanced Volvo car we ever created. It is fully elctric with a range of up to 600 kilometres on a single charge, designed to further raise our safety standards. The Volvo EX90 is truly defined by its software and part of a wider ecosystem, connecting to people's home and other devices. The car comes with state-of-the art sensors like cameras, radars and lidar that are connected to the car's high-performance core computers, where NVIDIA DRIVE runs Volvo Cars' in-house software to create a real-time, 360-degree view of the world.

During 2022, we have achieved a milestone of over one million software downloads to Volvo cars through OTA updates in markets across the globe and the rollout continues.

Later in the year, we inaugurated a new tech hub at our Bangalore campus in India and the Stockholm tech hub in Sweden. Since before, we have a tech hub in Lund, Sweden. Each location has their own areas of expertise. The team in Stockholm is focused on direct consumer relationships and the customer journey, while the teams in our other tech hubs focus on areas such as R&D and autonomous drive technology, data analytics and digital application development. On 16 December, Anders Bell started as the new head of R&D.

## Environment

Volvo Cars has a longstanding commitment to being a responsible company with a clear focus on sustainable development. Volvo Car Group's Sustainability Report has been prepared to meet the statutory requirements in accordance with the Swedish Annual Accounts Act, chapter 6, section 11. The scope and content of the Sustainability Report is defined on page 193 in this report.

## Employees

In 2022, Volvo Car Group employed 43.2 (40.9) thousand full-time employees (FTEs) and 4.2 (3.8) thousand agency personnel. The increase was mainly due to the acquisition of Taizhou plant and new recruitment to support the transformations.

## Proposed distribution of non-restricted equity

### *The parent company*

The following funds are at the disposal of the Annual General Meeting (AGM):

| | | |
|---|---|---|
| Share premium reserve | SEK | 31,653,517,859 |
| Retained earnings brought forward | SEK | 1,964,732,609 |
| Net income for the year | SEK | 2,635,804,793 |
| At the disposal of the AGM | SEK | 36,254,055,261 |

The Board proposes the following allocations of funds:

| | | |
|---|---|---|
| **Carried forward** | **SEK** | **36,254,055,261** |

## Significant events after the reporting period

### *Taizhou Luqiao Jijin Automobile Manufacturing Co., Ltd*

On 6 January 2023, Volvo Car Group, through one of its wholly-owned subsidiaries, Asia Euro Automobile Manufacturing (Taizhou) Co., Ltd. acquired by way of appropriation 100% of the shares in Taizhou Luqiao Jijin Automobile Manufacturing Co., Ltd. The acquired company owns land and buildings related to the manufacturing plant in Luqiao, Taizhou, China. In Taizhou the new range of smaller 40-series CMA-based car, the XC40 to Volvo Cars and the Polestar 2 model to Polestar, are produced. The acquisition is part of Volvo Car Group's long-term strategic decision to own its manufacturing production plants.

### *An inaugural green bond transaction was placed in the SEK market*

In February, 2023, Volvo Cars successfully issued its first green bond transaction in the SEK market, amounting to a total of MSEK 1500, divided into a fixed and a variable tranche, from a diverse set of Nordic investors. All proceeds are earmarked for funding and accelerating our transformation towards becoming a fully electric carmaker by 2030 and becoming climate neutral and circular by 2040. 100 per cent of the capital will be financing research and development of platform technology for the next generation of fully electric cars from Volvo. Both bonds will be listed on the Luxembourg Stock Excha nge.

### *The Nomination Committee's proposal for election of members to the Board of Directors of Volvo Car AB (publ.)*

The Nomination Committee of Volvo Car AB (publ.) has decided to submit the following proposals for resolution at the Annual General Meeting of shareholders on 3 April 2023:

Re-election as members of the Board of Directors: Eric Li (Li Shufu), Daniel (Donghui) Li, Lone Fönss Schröder, Winfried Vahland, Jonas Samuelsson, Diarmuid O'Connell Lila Tretikov, Jim Rowan and Anna Mossberg.

Eric Li to be re-elected as Chairperson of the Board of Directors and Lone Fönss Schröder as Vice Chairperson.

Thomas Johnstone has declined re-election.

The Nomination Committee proposes Ruby Lu to be elected as new member of the Board of Directors.

## Remuneration guidelines to senior executives

The following principal guidelines for remuneration to senior executives were adopted at the Annual General Meeting held on 11 May 2022. These guidelines shall be applicable to remuneration to the Executive Management Team, including the CEO, ("EMT") of Volvo Car AB ("Volvo Cars"). The guidelines implies that the People Committee, instead of Board of Directors in its entirety, is responsible for certain resolutions pursuant to these guidelines.

### *Types of remuneration*

The total remuneration package for the EMT may consist of the following components; fixed cash remuneration, variable cash remuneration, pension benefits and other benefits. The components of remuneration shall be on market terms. Additionally, the General Meeting may – irrespective of these guidelines – resolve on, among other things, share-related or share price-related remuneration.

*Variable cash remuneration*

The satisfaction of criteria for awarding short-term variable cash remuneration shall be measured over a period of one year, whereas the satisfaction of criteria for awarding long-term variable cash remuneration shall be measured over a period of three years.

For the CEO, the short-term variable cash remuneration may amount to not more than 200 per cent of the annual fixed cash salary on 31 December at the end of each performance year, and the long-term variable cash remuneration may amount to not more than 150 per cent of the annual fixed cash salary the year the programme was implemented. For the other EMT members, the short-term variable cash remuneration may vary but amount to not more than 140 per cent of the annual fixed cash salary on 31 December at the end of each performance year, and the long-term variable cash remuneration may vary but amount to not more than 120 per cent of the annual fixed cash salary the year the programme was implemented.

*Extraordinary arrangements*

Further variable cash remuneration may also be paid out in extraordinary circumstances, provided that such arrangement is of a one-time nature and is agreed on an individual basis for management recruitment or retention purposes or as compensation for extraordinary efforts beyond the individual's ordinary assignment. Such remuneration shall be in line with market practice and may for example include a one-time cash payment, retention bonus or severance payment in case of a change of control, or similar. The remuneration may amount to not more than the fixed annual cash salary for one year and shall not be paid more than once a year per individual. Resolutions on such compensation shall be made by the People Committee based on a proposal from the CEO if an EMT member (other than the CEO) is concerned and by the People Committee and the Chairperson if it relates to the CEO.

*Share-based incentive programmes*

The Board of Directors may, irrespective of these guidelines, propose general meetings to resolve on long-term share-based or share price-related incentive programmes. The Board of Directors proposed the Annual General Meeting 2022 to approve a long-term share-based incentive programme to comprise, amongst others, the EMT. The Annual General Meeting resolved on implementation of the long-term share-based incentive programme in accordance with the Board of Directors proposal and as a consequence of this no new long-term variable cash programme was offered the EMT in 2022. The same principle will apply in the following years as long as there is a long-term share-based program in place.

*Pension benefits*

For the CEO, pension benefits shall be a defined contribution scheme and the pension premiums may amount to no more than 50 per cent of the annual fixed cash salary. Variable cash remuneration shall not qualify for pension benefits.

For other EMT members, pension benefits shall be a defined contribution scheme and the pension premiums may amount to no more than 30 per cent of the annual fixed cash salary. Some current EMT members have a defined benefit pension as part of a pre-existing agreement. To the extent that variable cash remuneration qualifies for pension benefits under the applicable collective bargaining agreement, the pension benefits shall be deducted from the cash payment and paid as pension.

*Other benefits*

Other benefits may include, for example, medical insurance, annual health check-up and company cars. Such benefits may amount to no more than 20 per cent of the annual fixed cash salary.

For employments governed by rules other than Swedish, pension benefits and other benefits may be duly adjusted for compliance with mandatory rules or established local practice, taking into account, to the extent possible, the overall purpose of these guidelines.

EMT members who are expatriates (i.e., are sent on an international assignment and are not on a local employment contract) may receive additional remuneration and other benefits determined in line with Volvo Car Group's International Assignment Instruction which may include (but are not limited to) relocation cost, cost of living allowance, housing, schooling, home travel allowance and tax assistance. Such benefits may amount to no more than 160 per cent of the annual fixed cash salary.

### *Termination of employment*

Upon termination of an employment, the notice period may not exceed twelve (12) months. Fixed cash salary during the notice period and severance pay may together not exceed an amount corresponding to the individual's fixed cash salary for two (2) years, subject to applicable law. When termination is made by the EMT member, the notice period may not exceed twelve (12) months, without any right to severance pay.

Additionally, remuneration may be paid for non-compete undertakings. Such remuneration shall compensate for loss of income and shall only be paid in so far as the previously employed executive is not entitled to severance pay. The remuneration may amount to not more than 60 per cent of the monthly base salary at the time of termination of employment and be paid during the time the non-compete undertaking applies, however not for more than twelve (12) months following the termination of employment.

### *Criteria for awarding variable cash remuneration*

The variable cash remuneration shall be linked to predetermined and measurable criteria which can be financial or non-financial. They may also be individualised, quantitative or qualitative objectives. The criteria shall be designed so as to contribute to the Group's business strategy and long-term interests, including its sustainability, by for example being clearly linked to the business strategy or promote the executive's long-term development.

The variable short-term cash remuneration shall be linked to Volvo Car Group's earnings before interest and taxes (EBIT), quality, and strategic transformation activities.

Variable long-term cash remuneration, which is not approved by a general meeting, if any, shall be linked to the satisfaction of certain performance conditions related to operating margin and revenue growth measured over the term of the programme.

To which extent the criteria for awarding variable cash remuneration have been satisfied shall be evaluated when the measurement period has ended. The People Committee is responsible for the evaluation. For financial objectives, the evaluation shall be based on the latest financial information made public by Volvo Car Group.

The Board of Directors shall have the possibility, in accordance with applicable law or contractual provisions, to in whole or in part reclaim variable remuneration paid on incorrect grounds (claw-back).

### *Salary and employment conditions for employees*

In the preparation of the Board of Directors' proposal for these remuneration guidelines, salary and employment conditions for employees of the company have been taken into account by including information on the employees' total income, the components of the remuneration and increase and growth rate over time, in the People Committee's and the Board of Directors' basis of decision when evaluating whether the guidelines and the limitations set out herein are reasonable.

### *Share ownership guidelines for members of the EMT*

Since the Board of Directors believes that long-term share ownership is an important way to create alignment between the EMT members and Volvo Cars' shareholders, it has implemented the following policy of share ownership for members of the EMT.

The Board of Directors expects the CEO and other members of the EMT to accumulate personal holdings in shares with a market value corresponding to the value of 100 per cent of the EMT member's annual fixed cash salary. It is expected that the personal holding of shares be established within five years from the listing of the Company and, for new hires, within five years from commencement of employment with the Group as CEO or other member of the EMT. The CEO and the other members of the EMT are expected to achieve share ownership by retaining shares allotted (net after taxes payable) under future incentive programmes. Further, upon reaching the recommended share ownership level, it is expected that the CEO and the other members of the EMT maintain shares of such value for the duration of their appointment as CEO or the other member of the EMT.

### *Remuneration guidelines governance*

The Board of Directors has established the People Committee, whose tasks include preparing the Board of Directors' decision to propose guidelines for EMT remuneration. The Board of Directors shall prepare a proposal for new guidelines at least every fourth year and submit it to the general meeting. The guidelines shall be in force until new guidelines are adopted by the general meeting.

The People Committee shall also monitor and evaluate variable pay programmes, the application of the guidelines for executive remuneration as well as the current remuneration structures and compensation levels in the company.

The members of the People Committee are independent of the company and its executive management. Neither the CEO nor any other EMT member participate in the Board of Directors' processing of and resolutions regarding remuneration-related matters in so far as they are affected by such matters.

### *Deviation from the guidelines*

The Board of Directors may temporarily resolve to deviate from the guidelines, in whole or in part, if in a specific case there is special cause for the deviation and a deviation is necessary to serve Volvo Car Group's long-term interests, including its sustainability, or to ensure the Group's financial viability. The People Committee's tasks shall include preparation of any resolutions to deviate from the guidelines.

### The Board of Directors' proposal to guidelines for executive remuneration 2023

The Board of Directors of Volvo Car AB ("Volvo Cars") proposes that the 2023 annual general meeting resolves on updated guidelines for remuneration to the Executive Management Team (including the CEO) ("EMT"). The guidelines replace the guidelines adopted by the annual general meeting held in May 2022. In relation to the current guidelines, the proposal implies, in addition to editorial amendments, that the section related to the criteria for awarding variable cash remuneration is partly updated. See the following sentence for the proposed update: The variable short-term cash remuneration shall be linked to Volvo Car Group's earnings before interest and taxes (EBIT), sales, and mission execution activities.

# HOW WE MANAGE RISK

# Enterprise Risk Management

**Enterprise Risk Management**
Risk Management is critical to the Group's success in having sustainable profitable growth and reaching a top position in the future electric premium segment with access to international financial equity markets. The principles of Risk management are founded on the strategies and policies of the Group.

Enterprise Risk Management (ERM) is integrated in the business with an objective to improve decision making, proactively protect the fulfilment of strategies and plans and protecting our assets. The ERM also supports effective Business Continuity Management and transparency towards our external stakeholders.

In addition, we want risk management to be driven by culture and leadership behaviours, integrated in our daily operation, and based on best practice way of working.

**Governance**
The ultimate responsibility for ensuring risks (including climate related risks and opportunities) of Volvo Car Group are sufficiently managed lies with the Board of Directors.

The formal Enterprise Risk reporting process towards the Board occurs twice a year. Input is gathered throughout the organisation via the local risk managers, resulting in a comprehensive overview of risks in the organisation.

Risks are prioritised through collaboration in a cross functional team of Senior Managers. The top risks are presented to the Board of Directors and discussed by the Audit Committee twice a year. Additionally, the Internal Audit function serves as a 3rd line of defence by providing an objective review of the effectiveness of Risk Management all through the Group.

**Risk drivers and accelerators**
There are some key, more generic, factors that influence our business and drive risk. Individually, these are not considered risks, but rather drivers/accelerators, which in combination with other factors can simultaneously accelerate the pace at which a risk is evolving or even create completely new risks.

- Macroeconomics and geopolitical developments
- Constantly evolving consumer behaviour and demand
- The competitive environment and technological development
- Accelerating effects of climate change

Intelligence on the trends is gathered and used as a base for decisions on strategic direction. Intelligence is a crucial part of mitigating risks driven and/or accelerated by these various trends. More information about our industry and market trends can be found on pages 11-14, and our strategic work on pages 17-37.

**Risks**
The top risks presented in this section are a summary of prioritised risks for 2022. Each risk is described, and key response actions highlighted. The outlook included refers to how Volvo Cars believes that the relevant risk will be evolving, thus whether the level of risk can be seen as increasing, stable, or decreasing.

**The risks are categorised according to COSO framework:**
**Strategic** – the risks that might impact reaching strategic objectives
**Operational** – the risks that might interfere with operations
**Compliance** – the risks that might impact our compliance with laws and regulations
**Financial** – the risks that might impact the financial result and/or valuation

## STRATEGIC RISKS

| Risk | Description | Response | Outlook |
|---|---|---|---|
| Challenges with market shift and consumer behaviour in electrification transformation | As the customers move towards electric vehicles, there is uncertainty on the pace of consumer acceptance, market by market. The move from internal combustion engine vehicles to electric vehicles is dependent on factors like range, charging experience and pricing. In combination with facing energy crisis and impacts from instable macroeconomics there is a risk of adverse effects on our growth plans both with regards to volumes and margins. In addition to this the market experiences high price pressure as the competition in the segment continuously increases. | The divesture of Aurobay (ICE legacy business), the launch of the Volvo EX90 fully electric vehicle on a new platform with competitive range are examples of our commitment to our strategy. Collaboration and strategic alliances helps us create cost efficient products that enables competitive pricing. In combination with our financial stability, Volvo Cars is prepared to manage also negative impact from a potential recession. | Continued uncertainties due to the instability in livelihood circumstances for our customers in combination with increased competition. |
| Lack of strategic competencies | The fierce competition for strategic competencies leads to a risk of inability to attract and retain the right talents which poses a risk to our speed of transformation. Volvo Cars compete in a new landscape outside of the traditional automotive sector and are dependent on attracting tomorrow's talent. | To have progressive ambitions and strive to be in the forefront of the automotive transformation with a strong sustainability mindset creates attention and curiosity among key talents. | As Volvo Cars compete in a broader arena for key talents the pace of competition will increase. |
| Inability to secure strategic alliances and new ways of collaboration | Our high transformation ambition requires new business alliances and new models for enabling attractive offers but also to achieve efficiencies in the development of products and our supply chain. These entail potential risk in case of issues with alignment and/or performance. | The transformation journey has high attention, and several strategic milestones are set to ensure a sturdy way forward in our collaborations. Our governance models ensure a transparent dialogue with our partners and mutual dependencies vouch for focused problem solving if needed. | As the number of external interdependencies increases, the higher the potential for errors in relation to alignment. |

## STRATEGIC RISKS, CONTINUED

| Risk | Description | Response | Outlook |
|---|---|---|---|
| Unable to be on the forefront of sustainable transformation | The global risk of climate change generates public expectations on accelerating speed of sustainability transformation. This is a risk if Volvo Cars is not able to proactively adapt business plans and transition of its business, including the complex value chain, potentially risking negative brand reputation and loss of sales. | Volvo Cars' sustainability strategy and sustainability commitment is designed to enable a proactive approach by addressing and mitigating effects of climate change with climate action and circular economy as two key areas. These are fundamental to actively contribute to the Paris agreement and achieve below 2 degrees global warming. Our ambition is set to become a climate neutral company by 2040 and our climate action $CO_2$ reduction targets for 2030 have been verified by SBTi. Our focus is to decrease our $CO_2$ footprint in operations, supply chain and tailpipe, with the transformation into 100 per cent BEV company by 2030 are fundamental drivers . Our work to secure access to renewable energy throughout the value chain is continuous. Strategy refinement for content of recycled materials is ongoing and new business models are explored. Several strategic sustainability milestones were included in the 2022 plan. For more details on our sustainability strategy and performance, see the Sustainability chapter. | Legislation and regulations are getting more stringent and public expectations continuously increase, thus continuing driving the need for proactivity. Based on scenario analysis there is an increased speed and scope of new legislation and policies regulating environmental impact, and thus changes in consumer demand when global warming effects impact consumer preferences and mobility behaviours towards fossil free transportation modes. The recent and potential future increases in energy prices also create bigger consumer awareness of energy consumption and fossil fuel prices. It also highlights one of our key risks moving forward; securing fossil free electricity throughout our value chain. There are trends on growing importance and focus on a circular economy and resource consumption, including biodiversity and water impact. |
| Technology disruption | The increased regionalisation in technology and the shift from hardware to software defined products drives complexity whilst changes supply chains and needs for technologies, in-house competences. This might negatively impact the customer experience. | Our product strategy includes simplifying the customer offering, to develop modules rather than platforms allowing for updates with varying frequencies. Our industrial strategy is to build where we sell and to source where we build, offsetting increased regionalisation. | Increasing due to the Geopolitical development and our expanded product portfolio. |

## OPERATIONAL RISKS

| Risk | Description | Response | Outlook |
|---|---|---|---|
| Cybersecurity threats | Cybersecurity is becoming increasingly important for a sustainable business. Cybercrime comes in many forms, i.e., malware, information theft, extortion, and fraud. In addition, Global Automotive Regulations, Standards, and requirements to address cybersecurity continue to emerge, thus Cybersecurity is a critical business requirement for Volvo Cars and is fundamental towards protecting Volvo Cars' digital assets. | Volvo Cars has a proper governance model in place and an organisation equipped to address the Cybersecurity risk. There is a broad range of Policies, Directives and Standards in place. There is an overall Cybersecurity Program to address improvement areas. Reporting is made to Executive Management and Board of Directors. | The cyber risk is increasing in general in society thus also affecting Volvo Cars. |
| Material cost increases & supply chain disruptions | Volvo Cars relies on a global network of appr. 9,700 suppliers at 1,700 manufacturing sites for sourcing raw materials, parts, systems, software, and components. In times of a difficult business climate for our suppliers e.g., volatile commodity market, raw material shortages, supply chain disruptions, COVID-19 and semiconductor constraints, this can result in price increases and potential production disruptions due to potential business performance issues for suppliers.<br><br>The battery technology shift and the increased capacity requirement in combination with a volatile supply chain and potential raw material limitations is a risk to our electrification strategy. | Supplier Risk Management closely monitors the financial situation of critical suppliers, and in addition engineers on site provide information on local situations.<br>Additional responses to reduce risk<br>• Supplier relationship management keeps a for close dialogue on suppliers business outlook.<br>• Continuous work is ongoing to secure critical raw materials.<br>• Increased hedging scope for commodities.<br>• Improved supply chain oversight with close supplier collaboration.<br><br>Close collaboration with leading battery suppliers and new collaboration models serves as steps towards securing needed battery volume and access to next generation batteries. In addition, Volvo Cars has established a joint venture with Northvolt as one way to ensure capacity. | Risk level is higher than normal due to COVID-19 and chip shortage situation as well as more often experience lack of raw materials/commodities. However, there are currently a stabilisation on commodity price.<br><br>As the demand for batteries has not reached its peak yet, there is expected battery supply chain volatility ahead. |
| Business interruption | Volvo Cars may experience disruption to manufacturing, design and research and development capabilities for a variety of reasons, such as climate change, natural disasters, acts of war, epidemics and other external events. The mobility restrictions in China due to the China lockdown during COVID-19 outbreak is one example of direct impact on our ability to design, manufacture and sell cars. Delays in product schedules will impact customer experience. | Business interruption is to a certain extent an insurable risk although the impact may go beyond direct finance impact. Our product strategy aims to provide the consumer with options that are less dependent on the status of individual sites. | The global instability due to remaining effects from COVID and other regional instabilities keeps this risk on high level. |

ENTERPRISE RISK MANAGEMENT

## COMPLIANCE RISKS

| Risk | Description | Response | Outlook |
|---|---|---|---|
| Increased complexity on product liability compliance | The compliance of product liability is based on automotive industry laws affecting Volvo Cars. These laws are often country or regional specific and concerns, among other things, greenhouse gas emissions, vehicle fuel economy, vehicle emissions, energy security, car safety, environmental matters and Data Protection. There is a growing complexity in this area in itself and in addition Volvo Cars is transforming and advancing towards connected car capabilities and a direct customer sales model, thereby adding an additional complexity level. There is a risk that the number and extent of legal and regulatory automotive industry requirements will increase significantly in the future. We also notice an increasing trend of litigations and supervisory authority activity in these areas. | Volvo Cars is committed to delivering high quality products aligned with applicable automotive and relevant business legislation. Volvo Cars also continue to improve the digital solutions to cope with growing complexity for information management, including data protection and securing required reporting with authorities | Regulatory requirements increasing and getting more complex. |
| Potential human rights violations in our total value chain | The rising public expectations on corporate responsibility across the world create challenges and opportunities. Volvo Cars aspires to be a leader in Ethical and Responsible business; however, Volvo Cars has an international and complex supply chain amongst sourcing in high-risk countries. Being a global company with a highly complex value chain means that it is even more important to safeguard fundamental human rights and minimise the risk that human rights violations occur at any instance of our total value chain. | Aligning the corporate agenda in Ethical Business areas and monitoring the risks. Securing all activities in our supply chain and Code of Conduct for business partners to be fulfilled. Upcoming EU Due Diligence legislation will help standardise according to OECD guidelines. An internal cross functional due diligence project was established in beginning of 2022 to address the upcoming EU Corporate Sustainability Due Diligence Directive. It contains several workstreams aimed at identifying our most salient human rights issues across our value chain, such as modern slavery, child labour, right to a clean, healthy and sustainable environment, health and safety, data privacy and discrimination, and with an ambition of establishing improved, risk-based human rights due diligence procedures for potential and actual impacts. | The public's expectations and awareness are increasing. Current and new legislations are increasing in width and depth. |

## FINANCIAL RISKS

| Risk | Description | Response | Outlook |
|---|---|---|---|
| Corporate portfolio performance | The potential of weak performance in our portfolio companies poses a risk for negative impact on Volvo Cars as it could hinder us from reaching our strategic objectives. | An active corporate portfolio development organisation with well-defined processes and regular follow up for governance and steering of our portfolio companies. | The listing of Polestar has given the company a new tool to fund their operations, which decreases the risk for Volvo Cars. Further, the divestment of our shares in Aurobay on 8 November is decreasing the corporate portfolio and thereby reduces the risk. The acquisition of the remaining 13.5% of Zenseact on 31 December has given Volvo Cars full control of Zenseact, which further reduces the risk. On the other hand, continued macro-economic uncertainties and supply chain challenges are likely to affect the corporate portfolio in a similar manner as it affects Volvo Cars in general. |

### Reference to other key financial risks

It is important to note that ERM part of the annual report only focuses on the top risks of the group. In addition, Volvo Cars has extensive risk management ongoing in the company within several areas with daily focus on risks and preventive actions. A major risk area is Financial Risks, which are highly regulated with regard to transparency of reporting. A sensitivity analysis of selected financial risks and further details can be found in Note 20 – Financial instruments and financial risks and Note 23 – Post employment benefits.

### Climate change

Global warming puts focus on interconnectivity of our physical environment to our business and links strongly to our core value of sustainability. Volvo Cars continuously evaluates how climate change transitional risks affect our business strategy and operations since sustainability is deeply integrated in our business model. Being an Automotive industry actor, Volvo Cars acknowledge the global threat of climate change and global warming, particularly the importance of our own contribution to prevent global Climate Action failure. In the WEF's 2022 Global Risk Report, this was highlighted as the most severe risk facing the world. Climate related risks accounted for the top 3 greatest risks over the next 10 years (extreme weather, biodiversity loss and climate action failure). We follow the recommendations of TCFD, for scenario analysis of transitional and physical risks, see next page.

## SUMMARY OF GLOBAL WARMING SCENARIO ANALYSIS – TRANSITIONAL AND PHYSICAL RISKS

| What could happen | What risk areas may be triggered/accelerated | What impact might we see | What is our plan |
|---|---|---|---|
| For Transitional risk scenario analysis Volvo Cars uses both 4Degrees = IEA Stated Policies Scenario (STEPS), and <2Degrees = IEA Sustainability Development Scenario for simulation and strategy discussions in both the short-term (0–2 years), medium-term (2–5years) and long-term (5–20 years). Latest IPCC reports released during 2022 further enhance the risk that world is moving towards a near 3-degree global warming by end of century, with the increased risk that the Paris Agreement targets are not met. This will likely further accelerate government policy actions and increase transitional risks short to long-term. | • Market Shift and consumer behaviour in Electrification transformation – short-, medium- and long-term<br>• Strategic Alliances and New Ways of Collaboration – medium-term<br>• Climate Change – Sustainable Transformation – short-, medium- and long-term<br>• Compliance & Ethics – such as increased speed of new stricter regulations and policies – medium-term<br>• Financial – such as increased raw material and energy prices – long-term | Based on the scenario analysis of the biggest transitional risks (from the >2DS scenario), it is likely to see an increase in speed and scope of new legislation and policies regulating environmental impact towards zero tailpipe emissions vehicles, such as ICE bans in countries and city areas. There are changes in consumer demand when global warming effects impact consumer preferences and mobility behaviours towards fossil free transportation modes. The recent and potential future increases in energy prices also create bigger consumer awareness of energy consumption and energy prices. It highlights one of our key risks moving forward, securing fossil free electricity throughout our value chain to meet our climate neutral targets for operations mid-decade, and climate neutral company by 2040. Simulated and analyses also show a range of different global carbon prices to set our own carbon price at 1000 SEK/tonne $CO_2$. Trends on growing importance and focus on a circular economy and resource consumption, impacting our availability to secure sustainable materials such low emission aluminum and fossil free steel, and recycled materials. There is also an increased focus on companies' biodiversity and water consumption impact. | Our corporate strategy and objectives are constantly stress tested versus different transitional risks including market shifts and changing consumer behaviours, policy developments, material cost and accessibility, energy cost and climate neutral energy access to name a few.<br><br>Our current climate action $CO_2$ reduction targets for 2030 are in line with a well below 2-degree scenario as verified by the Science-Based Targets initiative (SBTi). Thereby fulfilling the IEA <2DS scenario, with the strategic decision to sell only BEV's by 2030 as the key enabler. In 2021 Volvo Cars set an internal carbon price of 1000 SEK/tonne $CO_2$ to be used in strategic decisions to further accelerate emissions reductions in all areas. There needs to be a continued focus to reduce our total emissions and decouple resource consumption from growth to reach the corporate ambitions to become a climate neutral and circular business by 2040, which in all scenarios is seen as the best risk mitigation. Read more in the Sustainability Report, starting p. 148. |
| For physical risk scenario, the climate risk scenario analysis was performed using a well-established system solution for natural disaster and climate change risk analysis and included different physical climate risks for instance storm surge, flooding, hurricane, heat stress and earthquakes. Using the IPCC RCP2.6, RCP4.5 and RCP8.5* scenarios for current, and years 2030, 2050 and 2100, overall and specific risk scores were generated and analysed.<br>Climate change increases the frequency of chronic or acute climate related hazards, such as floodings, storms and heat stress, and they could potentially impact and disrupt our operations, the safety of our personnel and people in our value chain and local communities. | • Chronic physical risks – medium to long-term<br>• Acute physical risks – short to long-term<br>• Affecting:<br>• Material Cost & Supply Chain – risk for increased costs and supply chain disruption<br>• Property & Machinery – damage and increased insurance costs<br>• Financial – financial risks | Volvo Cars continuously evaluates climate related risks when establishing new facilities and critical business operations. This makes us able to take risk-informed decisions when choosing suppliers or compound locations and better understand the risks our operations are exposed to in our industrial operations and workplace footprint.<br>Risk and vulnerability analysis of climate related risks is being performed frequently for our global manufacturing locations, with local and external experts being consulted, often as part of our underwriting processes. During 2022, an additional climate risk scenario analysis has been performed towards all our global manufacturing facilities with a lifetime expectancy longer than 10 years. The analysis verified earlier risk analysis results that our Taizhou factory (storm and flooding risks), Charleston factory (storm and earthquake risks) and Olofström South body plant (flooding risks) are our current top climate physical risk manufacturing facilities. | For identified risk areas, several climate adaptation solutions are in place or in development. Our factory in Charleston is situated in an area affected by a six month hurricane season and considered as a risk zone for earthquakes. The manufacturing site is therefore designed to the highest earthquake design in US; the wind-load design is higher than local standards; lightning protection is installed on all buildings; there are five storm water retention ponds on the plant site forming part of a natural stormwater drainage system, and there is a Crisis Management Plan, which is activated for instance when hurricanes hit the area. In the Taizhou area, which is a risk area for flooding, there are several governmental driven river network flood control reservoirs and seawalls in place and reinforcements projects ongoing. Adjacent to Olofström South Body plant, Volvo Cars operates since many years a dam for flood control and has during the last years done continuous improvements and renovations. Due to the increased risks for flooding a construction of a new protection gate further upstream has been decided in collaboration with the local municipal and key stakeholders, and the project was approved by the relevant authorities at the end of 2021. The protection gate will be completed within five years and will once completed protect the factory and Olofström area from potential future floodings and make it possible to remove downstream regulation solutions and reintroduce the original river stretch.<br>There will be continuous analyses of our business operations and value chain for climate related risks and we will act accordingly to mitigate and adapt to identified physical climate risks. Read more in the Sustainability Report, starting p. 148. |

*) IPCC RCP 8.5
United Nations IPCC (Intergovernmental Panel on Climate Change), RCP (Representative Concentration Pathways)
RCP8.5 Represent high-emissions scenario also frequently referred to as "business as usual" or "worst case" meaning a continued fossil fuel-based development which likely result in above 4 degrees temperature increase by year 2100. Resulting from a society that does not take climate action efforts to reduce greenhouse gas emissions.

# CORPORATE GOVERNANCE

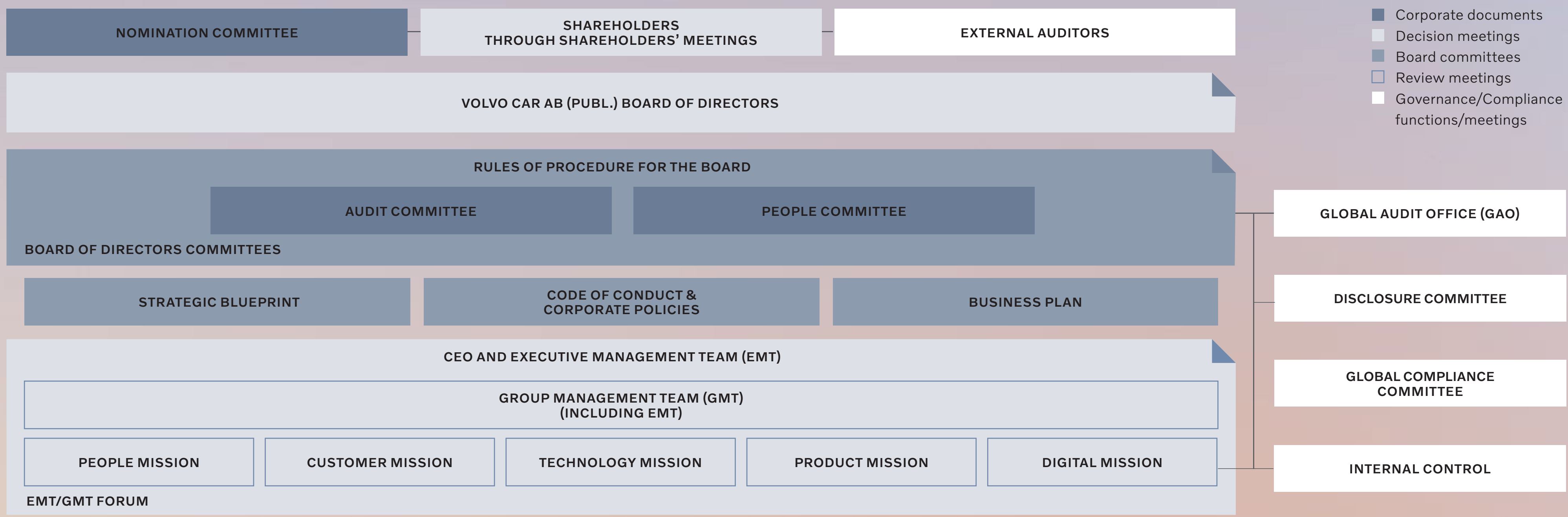
# Corporate Governance Report

**Corporate governance within Volvo Car Group**
The purpose of Volvo Car Group's corporate governance is to create a good foundation for active and responsible ownership, a proper distribution of responsibilities between the different company bodies, as well as good communication with all of the Group's stakeholders with the purpose of driving sustainable growth and good governance.

The corporate governance principles adhered to by Volvo Car Group are based on Swedish law, mainly the Swedish Companies Act and the Swedish Annual Accounts Act (Sw. årsredovisningslagen (1995:1554)), the Swedish Code of Corporate Governance (the "Code") and Nasdaq Stockholm's rulebook for issuers as well as other relevant laws and regulations. The Code is based on the"comply or explain" principle, meaning that companies are not obliged to at all times apply every rule in the Code, but are allowed the freedom to choose alternative solutions which they feel are better in their particular circumstances, provided they report every deviation, describe the alternative solution and explain the reasons for the deviation.

Volvo Car Group applies the principles of sound corporate governance and responsible business practice and the Code without any deviation.

The Board of Directors of the Company (the "Board") is responsible for Volvo Car Group's



organisation and the management of its business worldwide and is obliged to follow directives provided by the General Meetings. The Board may appoint committees with specific areas of responsibility and furthermore authorise such committees to decide on specific matters in accordance with regulations established by the Board. As of 10 February 2022, the Board decided that the then called People and Sustainability Committee's assignment should only relate to remuneration to the CEO and executive management and that the Product Strategy and Investment Committee and Commercial Transformation Committee would cease to exist and that the tasks related to sustainability and product strategy would instead be handled by the full Board. For the remainder of 2022, the Board's committees consisted of the Audit Committee and the People Committee.

The Chairperson of the Board directs the work of the Board and monitors the Board's fulfilment of its obligations. A Vice Chairperson has been appointed to support the Chairperson as appropriate. The Board has adopted and keeps updated its rules of procedures for the Board, which set out the principles on governance of the Board and its committees.

The President of Volvo Car Group, who is also the Chief Executive Officer (CEO), is appointed by the Board to handle the Group's day-to-day management and to lead the Executive Management Team (EMT) as overseen by the Board. The EMT's role is to assist the CEO in the operation of Volvo Car Group's business, setting the strategic long-term direction in dialogue with the Board and take corporate and strategic decisions as delegated by the Board. In addition, a broader Group Management Team (GMT) has also been established, consisting of EMT and other key roles. The GMT shall have shorter term tactical focus and support EMT to drive performance and execution based on direction set by EMT. To guide the direction, EMT has established a strategic blueprint with five missions that shall be guiding the Company's priorities: People Mission, Product Mission, Customer Mission, Technology Mission and Digital Mission.

### Shareholders and General Meetings

The General Meetings, the Company's highest decision-making body, is where shareholders exercise their influence. The Annual General Meeting is held within six months after the end of the financial year. Decisions made by shareholders' at the General Meetings include (i) adoption of instructions for the Nomination Committee which nominates members to the Company's Board of Directors, (ii) determination of the number of Board members, composition of the Board (including the Chairperson of the Board) and remuneration of Board members, based on recommendations by the Nomination Committee, (iii) election of external auditors, (iv) determination of the distribution of dividends (v) confirmation of income statements and balance sheets and the disposition of the Company's profit or loss, (vi) discharge from liability of the Board of Directors and CEO as well as (vii) guidelines for remuneration to the CEO and other members of the Executive Management Team. In addition, the shareholders of the Company can resolve on other matters that are important to the Company at the General Meeting, for example changes to the Articles of Association.

In addition to the Annual General Meeting, Extraordinary General Meetings can be convened when required.

Notice of the Annual General Meeting, as well as an Extraordinary General Meeting at which the matter of amendment to the Articles of Association is to be addressed, shall be issued not earlier than six weeks and not later than four weeks prior to the General Meeting. Notices of other Extraordinary General Meetings shall be issued not earlier than six weeks and not later than three weeks prior to the Extraordinary General Meeting. Notice of General Meetings shall be published in the Swedish Official Gazette (Sw. Post- och Inrikes Tidningar) and on the Company's website. Simultaneously, an announcement with information that the notice has been issued shall be published in Dagens Industri.

#### *Right to attend General Meetings*

All shareholders who are directly recorded in the Company's share register maintained by Euroclear Sweden six banking days prior to the General Meeting and who have notified the Company of their intention to participate in the General Meeting not later than the date indicated in the notice of the General Meeting, are entitled to attend the General Meeting and vote for the number of shares they hold.

In addition to notifying the Company, shareholders whose shares are nominee registered through a bank or other nominee must request that their shares are temporarily registered in their own names in the register of shareholders maintained by Euroclear Sweden, in order to be entitled to participate in the General Meeting. Shareholders should inform their nominees well in advance of the record date. Voting registrations made by nominees not later than four banking days prior to the General Meeting will be taken into account.

Shareholders may attend the Company's General Meetings in person or by proxy and may be accompanied by a maximum of two assistants. It will normally be possible for shareholders to register for the General Meeting in several different ways, as indicated in the notice of the meeting.

#### *Shareholder initiatives*

Any shareholder of the Company who wishes to have a matter dealt with at a General Meeting must submit a written request to the Board of Directors to that effect. The matter will be dealt with at a General Meeting if the request has been received by the Company no later than seven weeks prior to the General Meeting, or after such date, if it still is in due time for the matter to be included in the notice of the General Meeting.

#### *Number of shareholders and ownership structure*

The total number of shares in Volvo Car AB (publ.) amounts to 2,979,524,179 shares of series B which are listed on the Nasdaq Stockholm Stock Exchange. Volvo Cars largest shareholder is Geely Sweden Holdings AB holding approximately 82 per cent of the total number of shares and votes in the Company. The remaining 18 per cent of the shares and votes are held by Nordic and international investors and approximately 180,000 other investors. For further information on the ownership structure, please refer to page 48.

### Nomination Committee

Under the Code, a company listed on Nasdaq Stockholm shall have a Nomination Committee, the purpose of which is to make proposals to the General Meeting in respect of the Chairperson at General Meetings, number of Board members, elections of Board members, Chairperson of the Board and auditor, remuneration of each Board member (divided between the Chairperson of the Board and other Board members, and remuneration for committee work), remuneration to the auditor, and to the extent deemed necessary, proposals for amendments to the instruction for the Nomination Committee.

At the Annual General Meeting held on 11 May 2022, the current instruction for the Nomination Committee was adopted to apply until further notice.

The Nomination Committee prior to the Annual General Meeting 2023 consists of representatives of the three largest shareholders in terms of voting rights, as of 1 September 2022 and as announced on 29 September 2022. Members of the Nomination Committee are:

- Thomas Johnstone, appointed by Geely Sweden Holdings AB, Chairperson of the Nomination Committee
- Yimin Chen, appointed by Geely Sweden Holdings AB
- Eric Li, Chairperson of the Board of Volvo Car AB
- Anders Oscarsson, appointed by AMF
- Ylva Wessén, appointed by Folksam

The Nomination Committee has adopted a framework for nomination of members to the Board, which stipulates that the composition of the Board shall be diverse in terms of gender, nationality, professional background and other competences e.g. sustainability, relevant transformation areas and new technology. This to ensure that the Board has the appropriate balance of expert knowledge, which matches the scale and complexity of Volvo Cars, supports a sustainable development and meets the independency requirements of Volvo Cars. It is Volvo Cars' aim to have a balanced composition when it comes to gender and it is the ambition that each gender shall have a share of at least some 40 per cent of the Board members elected by the shareholders' meeting, an ambition not yet fully reached. The Unions represented in the Board shall be encouraged to apply the corresponding goal when appointing their representatives.

**Board of Directors**

The Board of Directors, which is the highest decision-making body after the General Meeting, bears ultimate responsibility for Volvo Car Group's organisation, management and control of the Company's financial conditions. The Board of Directors shall further ensure that the Company applies the Code and complies with applicable laws and regulations, Nasdaq Stockholm's rulebook for issuers, the listing rules of the Luxembourg Stock Exchange's Euro MTF market, the Company's Articles of Association and the rules of procedures for the Board.

***Composition***

At all times, the Board shall consist of a minimum of three and a maximum of twelve members and in addition thereto the number of employee representatives as required under Swedish law. No member of the Executive Management Team other than the CEO shall be a member of the Board. Each new Board member is provided with an induction programme to learn about Volvo Car Group and its regulatory requirements. It is furthermore the Board's intention, during normal conditions, to visit a Volvo Car Group site other than the headquarters at least once a year.

In accordance with the Code, the rules of procedures for the Board stipulate that the majority of the Board members shall be independent of the Company and the EMT and at least two of these independent members shall also be independent of major shareholders. In order to determine whether a member of the Board is independent in relation to the Company and the EMT, an overall assessment must be made of all circumstances which might give reason to question the independence of the Board member, e.g. the board member's current or previous employment, other board memberships or other relationships. Furthermore, in order to deter-

| Name of the Board members | Independent of the company/senior management | Independent of the company's major shareholder | Board meeting attendance | Committee meeting attendance | Remuneration, Board and Committees[1], SEK |
|---|---|---|---|---|---|
| Li Shufu (Chairperson of the Board) | N | N | 7/12 | N/A | N/A |
| Lone Fønss Schrøder (Vice Chairperson of the Board) | Y | N[2] | 12/12 | 9/9 | 3,140,000 |
| Jim Rowan (CEO)[3] | N | Y | 6/6 | N/A | N/A |
| Thomas Johnstone | Y | Y | 10/12 | 6/6 | 1,323,000 |
| Li Donghui | Y | N | 11/12 | 4/9 | N/A |
| Jonas Samuelson | Y | Y | 12/12 | 7/7 | 1,344,000 |
| Diarmuid O'Connell | Y | Y | 11/12 | 2/3 | 1,323,000 |
| Winfried Vahland | Y | Y | 10/12 | 3/3 | 1,323,000 |
| Lila Tretikov | Y | Y | 12/12 | 7/7 | 1,344,000 |
| Anna Mossberg[3] | Y | Y | 5/6 | N/A | 1,155,000 |
| Xingsheng (Jim) Zhang[4] | Y | Y | 6/6 | 2/3 | 1,150,000[6] |
| Michael Jackson[4] | Y | Y | 5/6 | 1/2 | 1,212,000[6] |
| Betsy Atkins[4] | Y | Y | 4/6 | 3/3 | 1,150,000[6] |
| Håkan Samuelsson[5] | N | Y | 2/4 | N/A | N/A |

1) Annual average remuneration of the Board and Committees as adopted by the Annual General Meeting in May 2022.
2) Lone Fønss Schrøder is, as of 2020, a director in the board of Geely Sweden Holdings AB, the main owner of Volvo Cars.
3) Member of the board from 11 May 2022.
4) Left the board in connection with the Annual General Meeting held on 11 May 2022.
5) Left the board on 21 February 2022.
6) Annual average remuneration of the Board and Committees as adopted by the Annual General Meeting in March 2021 valid for March–October 2021 and by the Extra Shareholders' Meeting in September 2021 valid for November 2021–April 2022.

mine the independence in relation to major shareholders, consideration must be given to the scope of the Board member's direct or indiregct relationship to the Company's major shareholders. Pursuant to the Code, "major shareholder" means a shareholder who, directly or indirectly, controls 10 per cent or more of the shares or voting rights in the Company. The Nomination Committee's assessment of the independence of the Board members in relation to the Company, the EMT and major shareholders is presented below. Lone Fønss Schrøder, Daniel Li, Thomas Johnstone, Winfried Vahland, Anna Mossberg, Jonas Samuelson, Lila Tretikov, and Diarmuid O'Connell are deemed independent in relation to the Company and the EMT, and, among these members, Thomas Johnstone, Winfried Vahland, Anna Mossberg, Jonas Samuelson, Lila Tretikov, and Diarmuid O'Connell are also deemed independent in relation to major shareholders. The Company thereby satisfies the Code's independence requirement.

### *Conflicts of interest*

Board members shall inform the Chairperson and/or the Vice Chairperson immediately if they find themselves in a conflict-of-interest situation. A Board member with a conflict of interest in relation to any matter to be dealt with by the Board may not participate in the discussions or decisions regarding such matter. As an example, Li Shufu, Daniel Li and Jim Rowan are not involved in any decision as regards Polestar. In addition, as an additional governance in relation to conflicts of interests, all related party transactions are handled by the Related Party Business Office.

### *Matters for the Board*

The Board is responsible for the organisation of Volvo Car Group and the management of its business worldwide. The Board continuously monitors Volvo Car Group's performance, evaluates Volvo Car Group's strategic direction and business plan as well as other aspects such as adherence to its Code of Conduct.

Sustainability is a deeply integrated part of Volvo Car Group's strategy and the Board monitors Volvo Car Group's efforts in that area which involves Volvo Cars' program to reach the ambitions set, including climate related risks and opportunities. Certain matters that have not been expressly allocated to the Board are delegated to the Board's Committees or the CEO as set out in the rules of procedures for the Board.

To ensure that the Board has good visibility of the Group's operations, the President and CEO of the Volvo Car Group submits a report on the business, including reporting from the Group's strategic affiliates, where appropriate, at all Board meetings. The CFO also reports on the financials of Volvo Car Group, including relevant matters relating to treasury, hedging, risk management, insurance etc., as appropriate. In addition, the Board discusses specific strategic topics of relevance and the Board Committees report on their work. At each Board meeting the Board is also presented with a number of decision items for consideration and approval as set out in the rules of procedures for the Board.

The work of the Board follows an annual cycle in order to allow the Board to address matters within the scope of its responsibility on a yearly basis. Matters that come up regularly are e.g. product and product development, commercial transformation and new technology and digitization as well as sustainability and compliance. In relation to sustainability, Volvo Cars also prepares a Sustainability Report (see pages 149-196) in accordance with GRI Standards and the statutory requirements in accordance with the Swedish Annual Accounts Act.

### *Authorisation for the Board to resolve on new issues of shares*

At the Annual General Meeting held on 11 May 2022, the shareholders resolved to authorise the Board to, on one or several occasions up to the next Annual General Meeting, resolve on new issues of common shares series B. The total number of shares that may be issued by virtue of the authorisation shall be within the limits of the articles of association and not exceed ten (10) per cent of the total number of shares in the Company at the time of the Board's resolution. The authorisation includes a right to resolve to issue new shares for cash consideration, by contribution in kind or payment by set-off. Issues for cash consideration or for consideration by set-off may be made with deviation from the shareholders' preferential rights only for the purpose of financing acquisitions and provided that the share issue is made on market terms. The purpose of the authorisation is to enable payment though issuance of shares in connection with potential acquisitions that the Company may carry out, and to enable capital raises in connection with, and in order to finance, such acquisitions.

### *Board meetings*

In accordance with the rules of procedures for the Board, the Board is expected to meet six to ten times per year at venues to be agreed by the Board. The Board has held twelve meetings during 2022, of which ten were ordinary and two extraordinary. The Board meets the external auditor at least once a year without the CEO or any other member of the EMT present. In addition, the Board occasionally holds non-executive meetings. The General Counsel is the secretary of the Board and also attends Board meetings as does the CFO.

The table on page 62 shows the Board members' attendance to the Board meetings in addition to their independence according to the requirements of the Code in relation to (i) the Company and (ii) the major shareholder, and the remuneration to the Board members for Board and Committee work.

### *Evaluation of the work of the Board*

The Board, through an external provider, conducts an annual survey of its work performed during the year. The survey covers areas such as the climate at Board meetings, the allocation of time spent on different topics, the work of the Board and its committees, the efficiency of the work of the Board, their prerequisites to perform Board work, Board leadership and relations with the Executive Management Team. Based on the result of the survey the Board will be benchmarked against its peers and also evaluated on performance and constellation and possible areas of improvement are identified. Relevant parts of the survey are also used in the Nomination Committee process. In addition to the annual survey, the Vice Chairperson conducts meetings with each individual Board member during the year.

### *Board committees*

According to the Swedish Companies Act and the Code, the Board of Directors shall institute an Audit Committee and a Remuneration Committee. The members of the Remuneration Committee are to be independent of the Company and the Executive Management Team. A majority of the Audit Committee's members are to be independent in relation to the Company and its Executive Management Team and at least one of the members who is independent in relation to the Company and the Executive Management Team is also to be independent in relation to the Company's major shareholders. At least one member of the Audit Committee must also have accounting or auditing proficiency.

The Board has established two permanent committees, the Audit Committee and the People Committee (which fulfils the tasks of the Remuneration Committee pursuant to the Code).

The major tasks of these committees are of preparatory and advisory nature, but the Board of Directors may also delegate decision-making powers on specific issues to the committees. The issues considered at committee meetings shall be recorded in minutes of the meetings and continuously reported to the Board. The committees are appointed at the statutory Board meeting following election of Board members. The Board has also determined that issues may be referred to ad hoc committees dealing with specific matters.

### Audit Committee

The Board has assigned an Audit Committee to oversee corporate governance, financial reporting, ESG (Environmental, Social and Governance) reporting and risks and compliance with external and internal regulations.

The Audit Committee is responsible for identifying and reporting relevant issues to the Board within the Audit Committee's areas of responsibility. The Audit Committees tasks are to monitor the integrity of Volvo Car Group's financial and ESG reporting system, internal controls, related-party transactions, operation procedure and the enterprise risk management framework, recommend to the Board the appointment, removal and remuneration of the external auditors (subject to approval at the shareholders' meeting) in accordance with the Swedish Companies Act, monitor the independence of the external auditors and review the effectiveness of the Internal Audit and Compliance and Ethics' function. The external auditors participate in parts of the Audit Committee meetings. The Audit Committee has during the year met with the external auditors, without management precent, to discuss management matters and related topics. The Internal Audit function reports directly to the Audit Committee and the Compliance and Ethics function has a direct reporting line to the Audit Committee for escalation. The Audit Committee has held nine meetings during 2022, four of which were ordinary and five extraordinary interim meetings. Lone Fønss Schrøder (Chairperson), Donghui (Daniel) Li, Lila Tretikov and Jonas Samuelson are the current members of the Audit Committee. The Audit Committee complies with the Swedish Companies Act's and the Code's requirements for independence as well as accounting and audit competence.

### People Committee

As of 10 February 2022, the Board decided that the People Committee's assignment shall only relate to remuneration for the CEO and EMT and no longer be responsible for sustainability matters. As a result, the committee was also renamed from People and Sustainability Committee to People Committee.

The Board has assigned to the People Committee to prepare remuneration principles for the CEO and the EMT members. Furthermore, the committee supports the Chairperson or Vice Chairperson of the Board, as applicable, with the approval of remuneration and benefits of the CEO and is responsible for preparing the remuneration report to be presented at the Annual General Meeting for its approval, and in dialogue with the CEO, assist with or resolve on various other people and remuneration matters in relation to the EMT. The committee is also responsible for approval and monitoring of global incentive arrangements for the EMT and other key employees and necessary coordination of such incentives and the Volvo bonus to all employees, succession planning for the CEO in dialogue with the Chairperson or the Vice Chairperson of the Board, as applicable, as well as other EMT positions. The committee also approves the EMT members' engagements outside Volvo Car Group. The People Committee has held six meetings during 2022, whereof five ordinary and one per capsulam. Thomas Johnstone (Chairperson), Diarmuid O'Connell and Winfried Vahland are the current members of the People Committee. The People Committee complies with the Code's requirements for independence.

In relation to the announcement that Thomas Johnstone will be the Chairperson of the Nomination Committee, Thomas Johnstone advised that he will not be up for re-election in the Board and he will therefore also leave the People Committee at Volvo Cars' AGM 2023.

## GOVERNANCE COMPLIANCE FUNCTIONS

In order to ensure a safe and stable governance of its work, the Board has four functions that reports directly or indirectly to the Board or its committees: the Global Audit Office, the Disclosure Committee, the Compliance and Ethics Office and Internal Control. In addition, the external auditors are working independent from the Board's functions.

### Global Audit Office

Volvo Car Group has an independent Internal Audit department referred to as the Global Audit Office with the assignment to determine whether Volvo Car Group's governance, internal control and risk management processes, as designed, operated and represented by management, are adequate and effective. The scope of the internal audit is determined by means of a risk assessment process and any additional requirements by the Board. The Audit Committee approves the internal audit plan which includes risks associated with the execution of the corporate strategy, business operations and processes. Audit results and status of implemented corrective measures by management is reported to the Audit Committee. The Head of the Global Audit Office reports to the Audit Committee.

### Disclosure Committee

Volvo Car Group has listed shares on Nasdaq Stockholm and listed bonds on Luxembourg Stock Exchange and is therefore required to comply with the relevant disclosure obligations under the Market Abuse Regulation (MAR), as well as under the listing rules of the Luxembourg Stock Exchange's Euro MTF market and the Nasdaq rulebook for issuers. In order to ensure compliance with the relevant requirements, Volvo Car Group has established a Disclosure Committee and the Board of Directors has adopted a set of procedures for the Disclosure Committee. The Board and the Audit Committee are kept updated on the discussions and decisions of the Disclosure Committee by means of summary reports and access to the minutes kept at the committee meetings. The members of the Disclosure Committee are the General Counsel & Chief Legal Officer (Chairperson), the CFO, the Head of Investor Relations, the Chief Communication Officer and the Head of Global Legal (secretary). The Head of Business Control and Transformation and the Head of Accounting and Group Reporting are required participants in financial report review meetings, and other senior company representatives attend the meetings on an agenda-driven basis. The Disclosure Committee has been established to implement required disclosure controls and procedures, resolve whether or not information is to be categorised as inside information or not and consider whether there is reason to delay disclosure of inside information or whether immediate disclosure is required as well as determine whether the requirements for selective disclosure are fulfilled.

### Compliance and Ethics

The EMT has established a Global Compliance Committee to review and decide upon compliance cases reported by Volvo Car Groups Compliance and Ethics Office. The committee also receives status updates on the implementation and continuous improvements of the Group's Compliance and Ethics programmes, including updates from relevant parts of the organisations on how adherence to the programmes is ensured. Furthermore, the Global Compliance Committee when appropriate reviews compliance-related matters reported by the Internal Audit and Internal Control functions, respectively. The Global Compliance Committee normally meets four times per year. Ad hoc meetings may be called for if and when required. The General Counsel & Chief Legal Officer (Chairperson), the CFO, the Chief People Officer, the Chief Operating Officer and the Chief Commercial Officer are permanent EMT members of the Global Compliance Committee together with the heads of APAC and Americas from GMT. In addition, Volvo Car Group's Global Head of Compliance & Ethics and Head of Internal Audit participate at the meetings. Other GMT members or senior company representatives attend the meetings when relevant, in particular when a compliance case is reported within their region or area of business.

In addition, the Compliance and Ethics Office supports the business operations in conducting business in a responsible and ethical manner, by developing, implementing and maintaining Volvo Car Group's Compliance and Ethics Programmes focusing on the areas of anti-corruption, data protection, trade sanctions and export control and competition law. The Corporate Compliance Programme consists of ten programme elements designed on the basis of guidelines describing "effective compliance programmes" and "adequate procedures", such as the US Sentencing Guidelines and the UK Bribery Act Guidance (supporting the Foreign Corrupt Practices Act and the UK Bribery Act) as well as guidance from Anti-Trust Offices throughout Europe. Among these ten programme elements are: tone from the top, a regular risk assessment that leads to identification and prioritisation of the main risk fields to which Volvo Car Group is exposed, so as to tailor the programme; implementation of a Compliance and Ethics framework (Code of Conduct and Corporate Policies, Directives and Guidelines); training, awareness and communication; Internal reporting and investigations; and monitoring and assessment with a view to continuously improving the Corporate Compliance and Ethics Programme. Volvo Car Group's Code of Conduct reflects Volvo Car Group's culture and how it drives results in an ethical and responsible way, by placing the emphasis on Volvo Car Group's culture, values and commitments in addition to focusing on the requirements set out in Volvo Car Group's corporate policies. The Compliance and Ethics office is led by the Global Head of Compliance and Ethics, who reports to the General Counsel and continuously reports on compliance issues to the Global Compliance Committee. The Global Head of Compliance and Ethics also has a direct reporting line, and continuously reports, to the Audit Committee and ensures that compliance training is provided for the Board of Directors. More information about the setup and performance of the Compliance & Ethics program, and the risk areas it covers, is available on p. 177-179.

### Internal control over financial reporting

According to the Swedish Companies Act, the Board is ultimately responsible for ensuring that an effective internal control system exists within the Group.

In order to assist the Board and the Executive Management Team in their internal control responsibilities, Volvo Car Group has implemented an internal control over financial reporting (ICFR) function, with the purpose of ensuring that the external financial reporting is reliable and that the financial reports follow generally accepted accounting principles. The Internal Control function reports to the Audit Committee on a periodic basis.

Volvo Car Group bases its internal control on the framework for internal control issued by the Committee of Sponsoring Organizations of the Treadway Commission consisting of five components; Control Environment, Risk Assessment, Control Activities, Information and Communication and Monitoring.

### Control Environment and control activities

The foundation of Volvo Car Group's control environment is the Code of Conduct, which is the guiding principle for Volvo Car Group and the Group's corporate policies and directives. The foundation of the control environment is also based upon functional policies, directives and guidelines and the Delegation of Authority directive.

Control activities are the procedures that help to ensure that Volvo Car Group's policies, directives and instructions are implemented and documented in Volvo Car Group's Internal Control framework. Control activities are performed throughout the organisation, at all levels and in all functions, to manage risk and to detect and correct errors in the financial processes.

#### *Risk Assessment*

From an ICFR perspective, the outcome of the risk assessment will define the internal control reviews for the coming year. Each entity and function is responsible for identifying risks, which are then consolidated and reported according to the Enterprise Risk Management Directive.

#### *Information and Communication*

The information and communication component within Volvo Car Group includes the systems and processes that support the identification, capture and exchange of information enabling personnel to carry out their responsibilities and ensure that financial reports are generated completely and accurately. Information concerning the planning, risk areas and results of the self-assessment and internal control reviews are communicated within various fora and to the Audit Committee on a periodic basis.

#### *Monitoring*

In addition to the Internal Audit function described above, the separate Internal Control function performs internal control reviews and coordinates evaluation activities through the annual self-assessment programme. This assessment programme focuses on management and transaction levels as well as self-assessment of IT general controls through the Internal Control digital team. When control deficiencies are identified through self-assessment, regular operations or internal or external audits they are tracked and appropriate corrective actions undertaken to resolve these deficiencies. The Head of Internal Control maintains regular contact with the CFO.

### External auditors

The Company's auditors are appointed by the Annual Meeting. At the Annual General Meeting held on 11 May 2022, Deloitte AB was re-elected until the next Annual General Meeting as the Company's auditors, with Jan Nilsson as auditor in charge.

The external auditors discuss the external audit plan, audit findings and risk management with the Audit Committee. The auditors review one interim report per year and present the results of their work to Audit Committee. The results of their financial year audit and the audit of the Annual Report of the parent company and the consolidated financial statements are presented to the Audit Committee and the Board of Directors at meetings after year-end. When Deloitte is asked to provide services other than the external audit, this is done in accordance with general independence rules. Deloitte provides an annual written assurance of its impartiality and independence to the Audit Committee in accordance with the Swedish Companies Act and ISA 260.

***CEO and the Executive Management Team***

The division of work between the Board and the CEO is set out in the rules of procedures for the Board and follows the Swedish Companies Act. The CEO is responsible for Volvo Car Group's everyday management and operations and for the preparation of reports and compiling information to the Board meetings and for presenting such material at the Board meetings.

The CEO is further responsible for Volvo Car Group's financial reporting and consequently must ensure that the Board receives adequate information for the Board to be able to evaluate the Group's financial condition. The CEO regularly keeps the Board informed of the developments in Volvo Car Group's operations, the development of sales, Volvo Car Group's results and financial position, important business events and all other events, circumstances or conditions which can be assumed to be of significance to Volvo Car Group's shareholders.

The CEO leads the work of the EMT, which is responsible for the overall business development and operations of Volvo Car Group. In addition to the CEO, the EMT consists of the CFO, the General Counsel, the Chief Operating Officer, the Chief Commercial Officer, the Chief People Officer and the Chief Communications Officer. The EMT's role is to assist the CEO in the operation of Volvo Car Group's business, setting the strategic long-term direction in dialogue with the Board and take corporate and strategic decisions as delegated by the Board.

In order to assist the EMT in carrying out decisions and actions related to certain topics to fulfil the Groups strategic blueprint as further elaborated on pages 16-37, the EMT has established the General Management Team (GMT) which in addition to the EMT contains the Heads of APAC, Americas and EMEA, together with the Heads of Global Advanced Technology & Sustainability, Global Design & UX, Global Controlling, Global Digital Core and Procurement & Supply Chain. The GMT's work includes five operational mission review fora, namely the People Mission, the Customer Mission, the Technology Mission, the Product Mission and the Digital Mission. These are established in order to ensure that each of these areas receives proper focus. The EMT meets on a bi-weekly basis and the whole GMT meets bi-weekly in between.

# Board of Directors Volvo Car AB (publ.)

Volvo Car AB (publ.) is the parent company of Volvo Car Group.

## ERIC LI (LI SHUFU)

**CHAIRPERSON OF THE BOARD**

Member of the board since 2010.

Born 1963

**Education and professional experience:** Bachelor's Degree in Management Engineering from the Harbin University of Science and Technology, China. Master's Degree in Mechanical Engineering from the Yanshan University, China. Former CEO of Zhejiang Geely Holding Group Co. Ltd.

Previously board member of Sanya Oriental Tourism Co. Ltd.

**Principal activities outside of Volvo Car Group and current Board assignments and similar:** Founder of Zhejiang Geely Holding Group Co. Ltd, Ecarx Holdings Inc and PSD Capital Limited (indirect holder of the shares in Polestar). Chairman of the Board of Zhejiang Geely Holding Group Co. Ltd, Geely Technology Group Co. Ltd, Geely Talents Development Group Co. Ltd, PSD Capital Limited and PSD Inestment Limited, and smart Automobile Co. Ltd. Member of the Board of Geely Group Limited, and Geely Sweden Holdings AB and a number of other companies within his ownership.

*Not independent in relation to the company and Executive Management Team nor the company's major shareholders.*

**Shareholding in Volvo Car Group:** 2,443,396,227[1)]

## LONE FØNSS SCHRØDER

**VICE CHAIRPERSON OF THE BOARD**

**CHAIRPERSON OF THE AUDIT COMMITTEE**

Member of the board since 2010.

Born 1960.

**Education and professional experience:** Master of Laws from the University of Copenhagen, Denmark. Master of Science in Economics and Business Administration from Copenhagen Business School, Denmark. Studies in Aviation and Insurance Law at the London Polytechnics (now University of Westminster), United Kingdom. Studies in Blockchain at MIT Sloan School of Management, United States. Studies in Management at IMD Business School, Switzerland. More than 20 years of experience from various senior positions at A.P. Möller Maersk A/S. Former CEO of Concordium AG. Former President and CEO of Wallenius Lines. Previous experience as senior advisor at Credit Suisse.

Previously chairman of the board of Saxo Bank A/S and board member of Valmet Oyj, Bilfinger SE.

**Principal activities outside of Volvo Car Group and current board assignments and similar:** Board member of Concordium Foundation. Vice Chairman of the Board and Chairman of the audit committee of Akastor ASA, Board member of Aker Solutions ASA, Aker Horizons ASA, and Geely Sweden Holdings AB. Member of the supervisory Board of INGKA Holding B.V. Member of the EMEA advisory Board of ServiceNow, Inc. Owner of Engelberg Zug Financial Group AG and Schroder Consult A/S.

*Independent in relation to the company and Executive Management Team, but not in relation to the company's major shareholder.*

**Shareholding in Volvo Car Group:** 24,897[1)]

## THOMAS JOHNSTONE

**BOARD MEMBER**

**CHAIRPERSON OF THE PEOPLE COMMITTEE**

Member of the board since 2015.

Born 1955.

**Education and professional experience:** Master of Arts from the University of Glasgow, United Kingdom. Honorary Doctorate in Bachelor of Arts from the University of South California, United States. Honorary Doctorate in Science from Cranfield University, United Kingdom. Held several positions within the SKF Group, including President and CEO

**Principal activities outside of Volvo Car Group and current board assignments and similar:** Chairperson of the Board of Husqvarna AB, Combient AB, Collegial AB, Wärtsilä Oyj Abp, The British Swedish Chamber of Commerce, The English School in Gothenburg and Tom J Consulting AB. Board member of Northvolt AB and Investor AB.

*Independent in relation to the Company and Executive Management Team as well as the Company's major shareholders.*

**Shareholding in Volvo Car Group:** 5,627[1)]

1) The Volvo Cars holdings reported reflect the holdings as of 31 December, 2022 and includes holdings by related parties, if applicable. For information on transactions made since this date, please refer to the website of the Swedish Financial Supervisory Authority.

BOARD OF DIRECTORS

## JIM ROWAN

**PRESIDENT AND CEO**

In current position since March 2022.

Member of the board since 2022.

Born 1965.

**Education and professional experience:** Degree in Mechanical Engineering from Glasgow Caledonian University and Business, Supply Chain and Logistics from Northumbria University. Previous experience as CEO Consumer Division of Ember Technologies, Chief Executive Officer and Chief Operating Officer of Dyson, Chief Operation Officer of BlackBerry, Executive Vice President, Global Operations of Celestica, Vice President European Operations of Flextronics, Non-executive director of KKR & Co Inc, Nanofilm Technologies International Ltd and PCH International Inc.

**Principal activities outside of Volvo Car Group and current board assignments and similar:** Member of the shareholders' committee of Henkel AG.

*Independent in relation to the company's major shareholders but not in relation to the company and Executive Management Team.*

**Shareholding in Volvo Car Group:** 151,000[1]

## ANNA MOSSBERG

**BOARD MEMBER**

Member of the board since 2022.

Born 1972.

**Education and professional experience:** Executive MBA from Stanford University, USA, Executive MBA from IE University, Spain, Master of Engineering and Finance from Luleå Technical University Sweden. Previous experience includes Business area Head at Google Sverige AB, Senior Vice President Strategy and Portfolio Management at Deutsche Telecom AG, CEO of Bahnhof AB, Vice President of Telia International Carrier AB, Director Internet Services of Telia AB and CEO of Silo AB.

**Principal activities outside of Volvo Car Group and current board assignments and similar:** Board member at Orkla ASA. Board member and member of Finance Committee at Swisscom AG. Board member and member of the remuneration committee and audit committee in Swedbank.

*Independent in relation to the company and Executive Management Team as well as the company's major shareholders.*

**Shareholding in Volvo Car Group:** 1,788[1]

## LILA TRETIKOV

**BOARD MEMBER**

**MEMBER OF THE AUDIT COMMITTEE**

Member of the board since 2021.

Born 1978.

**Education and professional experience:** Studies in Computer Science at the University of California Berkeley, United States. Studies at SAAD School of Business, University of Oxford, United Kingdom. Previously CEO of Engie SA, Terrawatt Initiative and Wikimedia Foundation. Previous experience includes several senior positions within SugarCRM Inc., Software General Manager of Evolving Systems Inc., Digital General Manager of Bank of America and founder of GrokDigital.

**Principal activities outside of Volvo Car Group and current board assignments and similar:** Corporate VP and Deputy CTO of Microsoft. Board member of Xylem Inc., Onfido Limited, Affinifi and Cervest Limited. Member of the Advisory Board of Capgemini SE. Founder and Board member of nam.R S.A.

*Independent in relation to the company and Executive Management Team as well as the company's major shareholders.*

**Shareholding in Volvo Car Group:** 1,197[1]

## DANIEL LI (LI DONGHUI)

**BOARD MEMBER**

**MEMBER OF THE AUDIT COMMITTEE**

Member of the board since 2012.

Born 1970.

**Education and professional experience:** Bachelor of Philosophy from the Renmin University of China. Master of Management Engineering from the Beijing Institute of Machinery Industry, China. Master of Business Administration from the Kelly School of Business at Indiana University, United States. Previously VP and CFO of Zhejiang Geely Holding Group Co. Ltd. Previous experience from key accounting, financing and corporate management positions, such as CFO and General Manager of several companies, including Guanxi Liugong Machinery Co. Ltd, China Academy of Post and Telecommunication, Cummins Inc., BMW Brilliance Automotive Ltd., ASIMCO Braking System (Guangzhou) Co. Ltd. and ASIMCO Braking System (Zhuhai) Co. Ltd. Previously independent Board member of China CYTS Tours Holding Co. Ltd.

**Principal activities outside of Volvo Car Group and current board assignments and similar:** CEO of Zhejiang Geely Holding Group Co. Ltd. Chairman of the Board of Lotus Group International Limited. Board member of Saxo Bank A/S, Proton Holdings Berhad, Polestar Automotive Holding UK Plc, Geely Sweden Holdings AB and Geely Automobile Holdings Limited. Independent Board member of YTO Express (International) Holdings Ltd.

*Independent in relation to the company and Executive Management Team, but not in relation to the company's major shareholders.*

**Shareholding in Volvo Car Group:** 0[1]

1) The Volvo Cars holdings reported reflect the holdings as of 31 December, 2022 and includes holdings by related parties, if applicable. For information on transactions made since this date, please refer to the website of the Swedish Financial Supervisory Authority.

BOARD OF DIRECTORS

## DIARMUID O'CONNELL

**BOARD MEMBER**

**MEMBER OF THE PEOPLE COMMITTEE**

Member of the board since 2021.

Born 1963.

**Education and professional experience:** Bachelor of Arts in History and Government from Dartmouth College, United States. Master of Arts in Foreign Policy and Political Economy from the University of Virginia, United States. MBA in Strategy and Finance from Kellogg Graduate School of Management, United States. Studies in marketing from McCann School of Business & Technology, United States. Previous experience from Accenture Consulting, Real Time Learning, Young & Rubicam and the U.S Department of State. Several executive roles at Tesla. Member of the Executive team of Fair Financial Corp. Energy/Mobility Consulting for Antin Infrastructure Partners.

**Principal activities outside of Volvo Car Group and current board assignments and similar:** Advisor to Form Energy and Carbon America. Member of the Supervisory Board of Albemarle Corp, Dana Inc. Technology and Energy Transition Corporation, Clarios and Mobility House AG.

*Independent in relation to the company and Executive Management Team as well as the company's major shareholders.*

**Shareholding in Volvo Car Group:** 1,197[1)]

## JONAS SAMUELSON

**BOARD MEMBER**

**MEMBER OF THE AUDIT COMMITTEE**

Member of the board since 2020.

Born 1968.

**Education and professional experience:** Master of Science in Economics and Business Administration from the School of Business, Economics and Law at the University of Gothenburg, Sweden. Previous experience from finance in various roles at Saab Automobile AB and General Motors Corporation. Former CFO at Munters AB and CFO, COO and CEO Major Appliances EMEA at AB Electrolux.

**Principal activities outside of Volvo Car Group and current board assignments and similar:** CEO at AB Electrolux. Board member of AB Electrolux, Axel Johnson AB and Ideella Föreningen Teknikföretagen i Sverige.

*Independent in relation to the company and Executive Management Team as well as the company's major shareholders.*

**Shareholding in Volvo Car Group:** 19,807[1)]

## WINFRIED VAHLAND

**BOARD MEMBER**

**MEMBER OF THE PEOPLE COMMITTEE**

Member of the board since 2019.

Born 1957.

**Education and professional experience:** Master's Degree in Mechanical Engineering and Business Administration from Technical University THD Darmstadt, Germany, Master of Business Administration from GMI Engineering & Management Institute, Michigan, United States, Advisory Professor Shanghai Tongji University, China. Honorary Doctorate in Economics from the University of Economics in Prague, Czech Republic. Honorary Doctorate in Mechanical Engineering from Dalian University of Technology, China. Previous experience from several positions within Volkswagen Group, such as CEO and President of Volkswagen Group China and Executive VP in Finance and Strategy of Volkswagen America do Sul, São Paulo, Brazil, Former Chairman of the Executive Board of Skoda Auto, Czech Republic. Several years of experience from General Motors in the United States and Germany as Head of Project Controlling, Adam Opel AG, Rüsselsheim/Zürich.

**Principal activities outside of Volvo Car Group and current board assignments and similar:** Chairman of the Supervisory Board of Eldor Corporation S.p.A. Honorary Chairman of the Supervisory Board of EuroCar AG. Member of the Supervisory Board of Proton Holdings Berhad and Vibracoustic SE.

*Independent in relation to the company and Executive Management Team as well as the company's major shareholders.*

**Shareholding in Volvo Car Group:** 8,618[1)]

1) The Volvo Cars holdings reported reflect the holdings as of 31 December, 2022 and includes holdings by related parties, if applicable. For information on transactions made since this date, please refer to the website of the Swedish Financial Supervisory Authority.

# Employee representatives

### JÖRGEN OLSSON

Born 1968.

Board member since 2016.

Representative of Unionen.

**Education:** Upper secondary school education.

**Current Board assignments and similar:** Chairperson of Unionen, Volvo Car Group.

**Previous work experience and other information:** –

**Shareholding in Volvo Car Group:** 580[1]

### ADRIAN AVDULLAHU

Born 1978.

Board member since 2021.

Representative of IF Metall.

**Education:** Upper secondary school education. Leadership training at Bommersvikakademin and IF Metall Stockholm.

**Current Board assignments and similar:** Chairperson IF Metall Group Volvo Car Sweden. Board member IF Metall Section 36 Gothenburg.

**Previous work experience and other information:** –

**Shareholding in Volvo Car Group:** 0[1]

### BJÖRN OLSSON

Born 1963.

Board member since 2022 (deputy since 2010).

Representative of IF Metall.

**Education:** Upper secondary school education.

**Current Board assignments and similar:** –

**Previous work experience and other information:** Several years of experience as a union representative.

**Shareholding in Volvo Car Group:** 220[1]

### ANNA MARGITIN

Born 1969.

Deputy Board member since 2016.

Representative of Akademikerna.

**Education:** Master in Physics and Electrical engineering from the University of Gothenburg, Sweden. Executive MBA Business and Law from the School of Business, Economics and Law at the University of Gothenburg, Sweden.

**Current Board assignments and similar:** Group Chairperson Akademikerna, Volvo Car Group.

**Previous work experience and other information:** Several positions within Volvo Car Group, including Chief Program Engineer, Senior Director Business Quality, Senior Director. Current Model Quality and Senior Director Customer Service.

**Shareholding in Volvo Car Group:** 786[1]

### MARIE STENQVIST

Born 1963.

Deputy board member since 2022.

Representative of IF Metall.

**Education:** Upper secondary school education.

**Current Board assignments and similar:** Board member at Bostads AB Poseidon.

**Previous work experience and other information:** –

**Shareholding in Volvo Car Group:** 500[1]

1) The Volvo Cars holdings reported reflect the holdings as of 31 December, 2022 and includes holdings by related parties, if applicable. For information on transactions made since this date, please refer to the website of the Swedish Financial Supervisory Authority.

# Executive Management Team

## JIM ROWAN

*"Our ambition is to create a global powerhouse of next-generation technology, which will allow us to help shape the future of electric mobility with a new generation of hardware-designed, software-defined premium cars.*

**PRESIDENT AND CEO**

In current position since March 2022.

Member of EMT since 2022.

Born 1965.

**Education:** Degree in Mechanical Engineering from Glasgow Caledonian University and Business, Supply Chain and Logistics from Northumbria University.

**Current board assignments and similar:** Member of the shareholders' committee of Henkel AG.

**Previous work experience and other information:** Previous experience as CEO Consumer Division of Ember Technologies, Chief Executive Officer and Chief Operating Officer of Dyson, Chief Operation Officer of BlackBerry, Executive Vice President, Global Operations of Celestica, Vice President European Operations of Flextronics, Non-executive director of KKR & Co Inc, Nanofilm Technologies International Ltd and PCH International Inc. Currently a member of the Shareholders' Committee of Henkel AG.

**Shareholding in Volvo Car Group:** 151,000[1)]

## MARIA HEMBERG

*"My goal is to enable Volvo Cars to conduct its business in a transparent and responsible manner with a world class governance model meeting all legal requirements.*

**GENERAL COUNSEL & CHIEF LEGAL OFFICER**

In current position since 2012.

Member of EMT since 2012.

Born 1964.

**Education:** Master of Laws (LL.M.) from Lund University, Sweden.

**Current board assignments and similar:** –

**Previous work experience and other information:** Previously legal counsel at AB SKF, lawyer and Senior Associate at Mannheimer Swartling Advokatbyrå and legal counsel at SCA Hygiene Products AB.

**Shareholding in Volvo Car Group:** 48,055[1)]

## JOHAN EKDAHL

*"By staying on top of all our financials, my aim is to help drive sustainable and profitable growth as we steer towards becoming a fully electric carmaker by 2030.*

**CHIEF FINANCIAL OFFICER**

In current position since 2022.

Member of EMT since 2022.

Born 1975.

**Education:** Civilekonom (Masters in Business and Economics) from School of Business, Economics and Law, Gothenburg University.

**Current Board assignments and similar:** Board member at Volvofinans Bank AB and VCFSUK Ltd.

**Previous work experience and other information:** Vice President, Head of Accounting and Group Reporting and various finance roles at Volvo Car Corporation. Previously worked as authorised auditor at EY.

**Shareholding in Volvo Car Group:** 706[1)]

1) The Volvo Cars holdings reported reflect the holdings as of 31 December, 2022 and includes holdings by related parties, if applicable. For information on transactions made since this date, please refer to the website of the Swedish Financial Supervisory Authority.

EXECUTIVE MANAGEMENT TEAM VOLVO CAR CORPORATION

## HANNA FAGER

*“I’m committed to making Volvo Cars the best place to work: An inclusive culture where ideas can be expressed freely and creativity can flourish.*

**CHIEF PEOPLE OFFICER**

In current position since 2020.

Member of EMT since 2016.

Born 1975.

**Education:** Bachelor of Science in Human Resource Development, Labour Relations from University West, Sweden. Studies in labour law and EU law at Halmstad University.

**Current Board assignments and similar:** Board member at Teknikföretagen.

**Previous work experience and other information:** Various management positions within Volvo Car Group, including Senior Director HR Marketing, Sales & Services, VP HR, Centre of Expertise and VP Employee & Benefits.

**Shareholding in Volvo Car Group:** 43,600[1)]

## BJÖRN ANNWALL

*“I’m excited to build more direct relationships with our customers, offering mobility solutions that fit every stage of their lives.*

**CHIEF COMMERCIAL OFFICER & DEPUTY CEO**

In current position since 2022.

Member of EMT since 2015.

Born 1975.

**Education:** Master of Science in Economics and Business Administration from Stockholm School of Economics.

**Current Board assignments and similar:** Board member of Axel Johnson.

**Previous work experience and other information:** Previously Senior Partner at McKinsey & Co. Previous experience from several positions within Volvo Car Group, including CFO, head of EMEA and Senior VP for Marketing, Sales and Service.

**Shareholding in Volvo Car Group:** 237,170[1)]

1) The Volvo Cars holdings reported reflect the holdings as of 31 December, 2022 and includes holdings by related parties, if applicable. For information on transactions made since this date, please refer to the website of the Swedish Financial Supervisory Authority.

EXECUTIVE MANAGEMENT TEAM VOLVO CAR CORPORATION

## JAVIER VARELA

*"My passion is to create value for customers and shareholders through excellence in innovation, product development and management of the end-to-end value chain.*

**CHIEF OPERATING OFFICER & DEPUTY CEO**

In current position since 2022.

Member of EMT since 2016.

Born 1964.

**Education:** Industrial engineering from the University of Vigo, Spain.

**Current Board assignments and similar:** Chairperson of the Board of NOVO Energy Production AB, Board member of Zenseact AB and NOVO Energy R&D AB.

**Previous work experience and other information:** Executive Vice President of Toyota Peugeot Citroën Automobile Czech as well as several senior positions within the PSA Group, including President and CEO of PSA Peugeot Citroën Argentina and Site Director for the Sochaux Plant.

**Shareholding in Volvo Car Group:** 85,185[1]

## OLIVIA ROSS-WILSON

*"By engaging others in our Volvo Cars' purpose, ambitions and actions in new ways, we have the opportunity to not only make Volvo more attractive to more people, but we can increase our positive impact in society at the same time.*

**CHIEF COMMUNICATIONS OFFICER**

In current position since 2021.

Member of EMT since 2021.

Born 1977.

**Education:** Diploma in Business Management at East Sydney College, Australia.

**Current Board assignments and similar:** –

**Previous work experience and other information:** Global Communication Manager of Ingka Group. Global Sustainability Communication Manager at IKEA. Communication Director at Clinton Foundation. PR Manager at Marks & Spencer Group Plc. Account Director at Ketchum Inc.

**Shareholding in Volvo Car Group:** 0[1]

1) The Volvo Cars holdings reported reflect the holdings as of 31 December, 2022 and includes holdings by related parties, if applicable. For information on transactions made since this date, please refer to the website of the Swedish Financial Supervisory Authority.

# Group Management Team

**ROBIN PAGE**
HEAD OF DESIGN
Born 1971.

**GEERT BRUYNEEL**
HEAD OF MANUFACTURING
Born 1960.

**ANDERS BELL**
HEAD OF R&D
Born 1974.

**KERSTIN ENOCHSSON**
HEAD OF PROCUREMENT & SUPPLY CHAIN
Born 1975.

**ERIK SEVERINSON**
HEAD OF NEW CAR PROGRAMMES & OPERATIONS STRATEGY
Born 1979.

**TOBIAS ALTEHED**
HEAD OF DIGITAL CORE
Born 1986.

**FREDRIK HANSSON**
HEAD OF GROUP CONTROLLING
Born 1982.

**MIKE COTTONE**
PRESIDENT OF USA & CANADA
Born 1979.

**XIAOLIN YUAN**
PRESIDENT OF GREATER CHINA
Born 1969.

**AREK NOWINSKI**
PRESIDENT OF EMEA
Born 1976.

**MAGNUS FREDIN**
PRESIDENT OF DIRECT MARKETS
Born 1981.

**LEX KERSSEMAKERS**
STRATEGIC ADVISOR
Born 1960.

FOR MORE INFORMATION ABOUT THE GMT MEMBERS
PLEASE SEE INVESTORS.VOLVOCARS.COM

# Auditor's report on the corporate governance statement

To the general meeting of the shareholders in Volvo Car AB (publ.) corporate identity number 556810-8988

### Engagement and responsibility

It is the board of directors who is responsible for the corporate governance statement for the financial year 2022-01-01 - 2022-12-31 on pages 59-74 and that it has been prepared in accordance with the Annual Accounts Act.

### The scope of the audit

Our examination has been conducted in accordance with FAR's standard RevR 16 The auditor's examination of the corporate governance statement. This means that our examination of the corporate governance statement is different and substantially less in scope than an audit conducted in accordance with International Standards on Auditing and generally accepted auditing standards in Sweden. We believe that the examination has provided us with sufficient basis for our opinions.

### Opinions

A corporate governance statement has been prepared. Disclosures in accordance with chapter 6 section 6 the second paragraph points 2-6 the Annual Accounts Act and chapter 7 section 31 the second paragraph the same law are consistent with the annual accounts and the consolidated accounts and are in accordance with the Annual Accounts Act.

Gothenburg, March 8, 2023
Deloitte AB

Signature on Swedish original
Jan Nilsson
Authorized Public Accountant

This is a translation of the Swedish language original. In the event of any differences between this translation and the Swedish language original, the latter shall prevail.

# FINANCIAL REPORT

# Contents Financial Report

# Consolidated Income Statements

| SEKm | Note | 2022 | 2021[1] |
|---|---|---|---|
| Revenue | 2 | 330,145 | 282,045 |
| Cost of sales | 3 | –269,813 | –221,254 |
| **Gross income** | | **60,332** | **60,791** |
| Research and development expenses | 3, 15 | –11,514 | –12,714 |
| Selling expenses | 3 | –21,000 | –18,796 |
| Administrative expenses | 3 | –11,485 | –9,698 |
| Other operating income and expenses[2] | 6 | 1,556 | 1,643 |
| Share of income in joint ventures and associates | 12 | 4,443 | –951 |
| **Operating income** | 4, 5, 7, 8, 9, 10 | **22,332** | **20,275** |
| Interest income and similar credits[2] | | 852 | 600 |
| Interest expenses and similar charges[2] | | –837 | –1,057 |
| Other financial income and expenses[2] | 11 | –1,532 | –1,058 |
| **Income before tax** | | **20,815** | **18,760** |
| Income tax | 13 | –3,812 | –4,583 |
| **Net income** | | **17,003** | **14,177** |
| **Net income attributable to** | | | |
| Owners of the parent company | | 15,577 | 12,546 |
| Non-controlling interests | | 1,426 | 1,631 |
| | | **17,003** | **14,177** |
| Basic earnings per share (SEK) | 14 | 5.23 | 4.72 |
| Diluted earnings per share (SEK) | 14 | 5.23 | 4.72 |

1) In 2022, there has been a change in the elimination of internal profit related to sale of digital services within the Group. This change has resulted in a decrease of cost of sales, research and development expenses and selling expenses against an increase of administrative expenses. The figures for 2021 have been adjusted accordingly. The reclassification has no impact on EBIT.
2) In 2022, Volvo Cars changed the presentation of Other operating income and Other operating expenses as well as Financial income and Financial expenses. See Note 6 – Other operating income and expenses, and Note 11 – Financial income and expenses, for further information.

### Income and result

Revenue increased by 17 per cent to SEK 330.1 (282.0) bn, supported by mix effects, price development effects, contract manufacturing, and the foreign exchange rate effect including hedges. Wholesale volumes decreased by 3 per cent to 631.7 (654.4) thousand cars, mainly affected by the supply chain constraints.

Gross income amounted to SEK 60.3 (60.8) bn, resulting in a gross margin of 18.3 (21.6) per cent with a decrease mainly due to increased raw material prices and logistics costs as well as higher cost for spot purchasing of semiconductors but also effects from contract manufacturing with a somewhat lower margin than wholesale. The gross margin was supported by positive mix effects and strong price realisation as well as positive foreign exchange rate effect including hedges.

Operating Income (EBIT) increased to SEK 22.3 (20.3) bn, resulting in an EBIT margin of 6.8 (7.2) per cent supported by the de-SPAC listing of Polestar in second quarter with a net effect amounting to SEK 5.9 bn. However, comparable figures was also supported by the valuation effect from the private placement in Polestar of SEK 2.0 bn and the dividend from Zenuity of SEK 1.2 bn. Excluding share of income in joint ventures and associates, EBIT decreased to SEK 17.9 (21.2) bn, corresponding to a margin of 5.4 (7.5) per cent. The exchange rate effects including hedges had a positive effect in EBIT of SEK 0.8 bn.

Net financial items amounted to SEK –1.5 (–1.5) bn. The effective tax rate decreased to 18.3 (24.4) per cent. Net income was SEK 17.0 (14.2) bn and was in relation to revenue 5.2 (5.0) per cent. Basic earnings per share amounted to SEK 5.23 (4.72).

CONSOLIDATED FINANCIAL STATEMENTS

| Research and development spending, SEKbn | 2022 | 2021 |
|---|---|---|
| Research and development spending | –22.1 | –19.0 |
| Capitalised development costs | 15.2 | 10.9 |
| Amortisation and depreciation of research and development | –4.6 | –4.6 |
| **Research and development expenses** | **–11.5** | **–12.7** |

| Changes to revenue, SEKbn | Full year |
|---|---|
| **Revenue 2021** | **282.0** |
| Volume | –3.1 |
| Sales mix and pricing | 15.2 |
| Sale of licences | –0.6 |
| Foreign exchange rates | 21.8 |
| Contract manufacturing | 17.7 |
| Other[1] | –2.9 |
| **Revenue 2022** | **330.1** |
| **Change %** | **17** |

1) Including used cars, emission credits, parts and accessories.

| Changes to Operating income, SEKbn | Full year |
|---|---|
| **EBIT 2021** | **20.3** |
| Volume | — |
| Sales mix and pricing | 9.2 |
| Government grants | 0.1 |
| Sale of licences | –0.1 |
| Foreign exchange rates | 0.8 |
| Share of income in JVs and associates[2] | 5.4 |
| Items affecting comparability - Volvo Cars operations | — |
| Other[3] | –13.4 |
| **EBIT 2022** | **22.3** |
| **Change %** | **10** |

2) For items affecting comparability – JVs and associates, see the table Items affecting comparability.
3) Mainly including raw material increases, fixed costs, used cars, emission credits, parts and accessories, cost efficiencies and import duties.

| Items affecting comparability, SEKbn | 2022 | 2021 |
|---|---|---|
| de-SPAC listing of Polestar, net effect | 5.9 | — |
| Share of income, Zenuity | — | 1.2 |
| Valuation effect from the private placement in Polestar Automotive Holding Ltd | — | 2.0 |
| **Total** | **5.9** | **3.2** |

# Consolidated Comprehensive Income

| **SEKm** | **2022** | 2021 |
|---|---|---|
| Net income | 17,003 | 14,177 |
| | | |
| **Other comprehensive income** | | |
| *Items that will not be reclassified subsequently to income statement:* | | |
| Remeasurements of provisions for post-employment benefits | 4,560 | 3,123 |
| Tax on items that will not be reclassified to income statement | –998 | –669 |
| | | |
| *Items that have been or may be reclassified subsequently to income statement:* | | |
| Translation difference on foreign operations | 3,872 | 4,375 |
| Translation difference of hedge instruments of net investments in foreign operations | –710 | –265 |
| Change in fair value of cash flow hedge related to currency and commodity price risks | 2,289 | –2,315 |
| Tax on items that have been or may be reclassified to income statement | –319 | 526 |
| **Other comprehensive income, net of income tax** | **8,694** | **4,775** |
| **Total comprehensive income** | **25,697** | **18,952** |
| | | |
| **Total comprehensive income attributable to** | | |
| Owners of the parent company | 24,150 | 16,320 |
| Non–controlling interests | 1,547 | 2,632 |
| | **25,697** | **18,952** |

# Consolidated Balance Sheets

| SEKm | Note | 31 Dec 2022 | 31 Dec 2021 |
|---|---|---|---|
| **ASSETS** | | | |
| **Non-current assets** | | | |
| Intangible assets | 15 | 56,994 | 43,840 |
| Tangible assets[1] | 7, 16 | 77,252 | 71,415 |
| Investments in joint ventures and associates | 12 | 15,599 | 6,931 |
| Other long-term securities holdings | 20 | 4,353 | 1,765 |
| Deferred tax assets | 13 | 9,131 | 7,367 |
| Other non-current interest-bearing receivables | | 3,354 | 5,046 |
| Non-current derivative assets | 20 | 1,128 | 169 |
| Other non-current assets | 17 | 3,994 | 4,863 |
| **Total non-current assets** | | **171,805** | **141,396** |
| | | | |
| **Current assets** | | | |
| Inventories | 18 | 46,951 | 36,603 |
| Accounts receivable | 4, 19 | 25,239 | 18,553 |
| Current tax assets | | 1,763 | 951 |
| Current derivative assets | 20 | 1,769 | 824 |
| Other current assets[1] | 19 | 16,239 | 10,860 |
| Marketable securities | 21 | 3,415 | 7,996 |
| Cash and cash equivalents | 21 | 63,743 | 62,265 |
| Assets held for sale | 33 | — | 3,910 |
| **Total current assets** | | **159,119** | **141,962** |
| **TOTAL ASSETS** | | **330,924** | **283,358** |

| SEKm | Note | 31 Dec 2022 | 31 Dec 2021 |
|---|---|---|---|
| **EQUITY & LIABILITIES** | | | |
| **Equity** | 22 | | |
| Equity attributable to owners of the parent company[1] | | 113,947 | 90,185 |
| Non-controlling interests[1] | | 3,331 | 4,327 |
| **Total equity** | | **117,278** | **94,512** |
| | | | |
| **Non-current liabilities** | | | |
| Provisions for post-employment benefits | 23 | 6,883 | 11,961 |
| Deferred tax liabilities | 13 | 5,392 | 2,340 |
| Other non-current provisions | 24 | 8,398 | 8,623 |
| Liabilities to credit institutions | 20 | 3,096 | 2,543 |
| Non-current bonds | 20 | 22,959 | 18,401 |
| Non-current contract liabilities to customers | 25 | 7,144 | 6,967 |
| Other non-current interest-bearing liabilities | 7 | 4,845 | 5,509 |
| Non-current derivative liabilities | 20 | 825 | 348 |
| Other non-current liabilities | 4, 26 | 4,726 | 6,039 |
| **Total non-current liabilities** | | **64,268** | **62,731** |
| | | | |
| **Current liabilities** | | | |
| Current provisions | 24 | 9,051 | 8,607 |
| Liabilities to credit institutions | 20 | 755 | 4,471 |
| Current bonds | 20 | 2,000 | — |
| Current contract liabilities to customers | 25 | 26,094 | 22,929 |
| Accounts payable | 4 | 68,913 | 48,283 |
| Current tax liabilities | | 1,566 | 1,402 |
| Other current interest-bearing liabilities | 7 | 1,500 | 1,462 |
| Current derivative liabilities | 20 | 1,809 | 2,312 |
| Other current liabilities | 27 | 37,690 | 34,524 |
| Liabilities held for sale | 33 | — | 2,125 |
| **Total current liabilities** | | **149,378** | **126,115** |
| **TOTAL EQUITY & LIABILITIES** | | **330,924** | **283,358** |

1) Adjustments have been made to the prior period presented. For more information see Note 10 – Government Grants.

# Consolidated Statement of Changes in Equity

| SEKm | Share capital[1] | Share premium | Other contributed capital | Currency translation reserve | Other reserves | Retained earnings | Attributable to owners of the parent | Non-controlling interests | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Balance at 1 January 2021 (as previously reported)** | **51** | **11,497** | **8,452** | **–1,379** | **468** | **40,323** | **59,412** | **11,006** | **70,418** |
| Correction of prior period error[2] | | | | 7 | | –240 | –233 | –233 | –466 |
| **Balance at 1 January 2021 (restated)** | **51** | **11,497** | **8,452** | **–1,372** | **468** | **40,083** | **59,179** | **10,773** | **69,952** |
| **Net income** | **—** | **—** | **—** | **—** | **—** | **12,546** | **12,546** | **1,631** | **14,177** |
| **Other comprehensive income** | | | | | | | | | |
| Remeasurements of provisions for post-employment benefits | — | — | — | — | — | 3,123 | 3,123 | — | 3,123 |
| Translation difference on foreign operations | — | — | — | 3,243 | — | — | 3,243 | 1,132 | 4,375 |
| Translation difference of hedge instruments of net investments in foreign operations | — | — | — | –265 | — | — | –265 | — | –265 |
| Change in fair value of cash flow hedge related to currency and commodity price risks | — | — | — | — | –2,153 | — | –2,153 | –162 | –2,315 |
| Tax attributable to items recognised in other comprehensive income | — | — | — | 54 | 441 | –669 | –174 | 31 | –143 |
| **Other comprehensive income** | **—** | **—** | **—** | **3,032** | **–1,712** | **2,454** | **3,774** | **1,001** | **4,775** |
| **Total comprehensive income** | **—** | **—** | **—** | **3,032** | **–1,712** | **15,000** | **16,320** | **2,632** | **18,952** |
| **Transactions with owners** | | | | | | | | | |
| Capital contribution from non-controlling interests[3] | — | — | — | — | — | — | — | 1,267 | 1,267 |
| Transactions with non-controlling interests[3] | — | — | — | — | — | 409 | 409 | –409 | — |
| Divestment of non-controlling interests[3] | — | — | — | — | — | 163 | 163 | –228 | –65 |
| Business combinations under common control[4] | — | — | — | — | — | 82 | 82 | — | 82 |
| Redemption of preference shares[5] | –1 | –4,988 | — | — | — | –335 | –5,324 | — | –5,324 |
| Bonus issue[5] | 1 | — | — | — | — | –1 | — | — | — |
| New issue[5] | 8 | 19,733 | — | — | — | — | 19,741 | — | 19,741 |
| Issue in kind[5] | — | 91 | — | — | — | –91 | — | — | — |
| Directed new issue to preference shareholders[5] | 2 | 5,322 | — | — | — | — | 5,324 | — | 5,324 |
| Dividend to shareholders[6] | — | — | — | — | — | –5,709 | –5,709 | –9,708 | –15,417 |
| **Transactions with owners** | **10** | **20,158** | **—** | **—** | **—** | **–5,482** | **14,686** | **–9,078** | **5,608** |
| **Balance at 31 December 2021** | **61** | **31,655** | **8,452** | **1,660** | **–1,244** | **49,601** | **90,185** | **4,327** | **94,512** |

1) Share capital amounted to SEK 60,947,709.
2) Adjustments have been made to the prior period presented. For further information, see Note 10 – Government Grants.
3) For further information, see Note 22 – Equity and Note 8 – Participation in subsidiaries (Parent company).
4) Refers to the acquisition of Asia Euro Automobile Manufacturing (Taizhou) Co., Ltd.
5) For further information, see Note 22 – Equity.
6) For further information, see Note 22 – Equity and Note 4 – Related parties.

# Consolidated Statement of Changes in Equity

| SEKm | Share capital[1] | Share premium | Other contributed capital | Currency translation reserve | Other reserves | Retained earnings | Attributable to owners of the parent | Non-controlling interests | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Balance at 1 January 2022 (as previously reported)** | **61** | **31,655** | **8,452** | **1,653** | **–1,244** | **49,841** | **90,418** | **4,560** | **94,978** |
| Correction of prior period error[2] | — | — | — | 7 | — | –240 | –233 | –233 | –466 |
| Effect of hyperinflation[3] | — | — | — | — | — | 49 | 49 | — | 49 |
| **Balance at 1 January 2022 (restated)** | **61** | **31,655** | **8,452** | **1,660** | **–1,244** | **49,650** | **90,234** | **4,327** | **94,561** |
| **Net income** | **—** | **—** | **—** | **—** | **—** | **15,577** | **15,577** | **1,426** | **17,003** |
| **Other comprehensive income** | | | | | | | | | |
| Remeasurements of provisions for post-employment benefits | — | — | — | — | — | 4,560 | 4,560 | — | 4,560 |
| Translation difference on foreign operations | — | — | — | 3,902 | — | — | 3,902 | –30 | 3,872 |
| Translation difference of hedge instruments of net investments in foreign operations | — | — | — | –710 | — | — | –710 | — | –710 |
| Change in fair value of cash flow hedge related to currency and commodity price risks | — | — | — | — | 2,102 | — | 2,102 | 187 | 2,289 |
| Tax attributable to items recognised in other comprehensive income | — | — | — | 147 | –430 | –998 | –1,281 | –36 | –1,317 |
| **Other comprehensive income** | **—** | **—** | **—** | **3,339** | **1,672** | **3,562** | **8,573** | **121** | **8,694** |
| **Total comprehensive income** | **—** | **—** | **—** | **3,339** | **1,672** | **19,139** | **24,150** | **1,547** | **25,697** |
| **Transactions with owners** | | | | | | | | | |
| Capital contribution from non-controlling interest[4] | — | — | — | — | — | — | — | 17 | 17 |
| Transactions with non-controlling interests[4] | — | — | — | — | — | 37 | 37 | –37 | — |
| Divestment of non-controlling interest[4] | — | — | — | — | — | –764 | –764 | –432 | –1,196 |
| Divestment under common control[5] | — | — | — | — | — | 267 | 267 | –1,245 | –978 |
| New issue | — | –1 | — | — | — | — | –1 | — | –1 |
| Share-based payments[6] | — | — | — | — | — | 24 | 24 | — | 24 |
| Dividend to shareholders[7] | — | — | — | — | — | — | — | –846 | –846 |
| **Transactions with owners** | **—** | **–1** | **—** | **—** | **—** | **–436** | **–437** | **–2,543** | **–2,980** |
| **Balance at 31 December 2022** | **61** | **31,654** | **8,452** | **4,999** | **428** | **68,353** | **113,947** | **3,331** | **117,278** |

**Equity**

Total equity increased to SEK 117.3 (94.5) bn, resulting in an equity ratio of 35.4 (33.4) per cent. The change is mainly attributable to the positive net income of SEK 17.0 bn and positive effect in other comprehensive income of SEK 8.7 bn, offset by divestment of non-controlling interest SEK –1.2, divestment under common control SEK –1.0 bn and dividend to non-controlling interest SEK –0.8 bn.

The change in other comprehensive income is related to a positive foreign exchange translation effect, including hedges of net investments in foreign operations of SEK 3.3 bn (net of tax) and remeasurements of provisions for post-employment benefits of SEK 3.6 bn (net of tax) and change in cash flow hedge reserve from unrealised hedge contracts of SEK 1.8 (net of tax). The change in value of cash flow hedge is mainly due to contract prices being higher than the market prices.

1) Share capital amounted to SEK 60,947,709.
2) Adjustments have been made to the prior period presented. For further information, see Note 10 – Government Grants.
3) For further information, see Note 1 – General information for financial reporting in Volvo Car Group.
4) For further information, see Note 22 – Equity and Note 8 – Participation in subsidiaries (Parent company).
5) For further information, see Note 31 – Business combinations and divestments.
6) For further information, see Note 8 – Employees and remuneration.
7) For further information, see Note 22 – Equity and Note 4 – Related parties.

CONSOLIDATED FINANCIAL STATEMENTS

# Consolidated Statement of Cash Flows

| SEKm | Note | 2022 | 2021 |
|---|---|---|---|
| **OPERATING ACTIVITIES** | | | |
| Operating income | | 22,332 | 20,275 |
| Depreciation and amortisation of non-current assets | 9 | 16,091 | 15,005 |
| Dividends received from joint ventures and associates | | 72 | 1,991 |
| Interest and similar items received | | 1,065 | 602 |
| Interest and similar items paid | | –1,351 | –1,139 |
| Other financial items | | 206 | –815 |
| Income tax paid | | –4,223 | –3,673 |
| Adjustments for items not affecting cash flow | 30 | –7,135 | –750 |
| | | **27,057** | **31,496** |
| *Movements in working capital* | | | |
| Change in inventories | | –7,348 | 3,643 |
| Change in accounts receivable | | –776 | 2,845 |
| Change in accounts payable | | 18,533 | –3,328 |
| Change in provisions | | –4,640 | –1,126 |
| Change in contract liabilities to customers | | 5,941 | 2,239 |
| Change in other working capital assets/liabilities | | –5,168 | –5,917 |
| **Cash flow from movements in working capital** | | **6,542** | **–1,644** |
| **Cash flow from operating activities** | | **33,599** | **29,852** |
| **INVESTING ACTIVITIES** | | | |
| Investments in shares and participations | 12 | –9,597 | –11,518 |
| Divestment in shares and participations | 31 | 2,290 | — |
| Capital repayments from shares and participations | | — | 132 |
| Investments in intangible assets | | –18,328 | –11,972 |
| Investments in tangible assets | | –13,784 | –11,352 |
| Disposal of tangible assets | | 161 | 123 |
| Other | | –400 | –150 |
| **Cash flow from investing activities** | | **–39,658** | **–34,737** |
| **Cash flow from operating and investing activities** | | **–6,059** | **–4,885** |

| SEKm | Note | 2022 | 2021 |
|---|---|---|---|
| **FINANCING ACTIVITIES** | | | |
| Proceeds from credit institutions | | 1,040 | 1,579 |
| Proceeds from bond issuance | 20 | 5,260 | — |
| New share issue | | — | 20,807 |
| Capital contribution from Non-controlling interest | | — | 360 |
| Repayment of bond | | — | –8,064 |
| Repayment of liabilities to credit institutions | | –4,530 | –2,957 |
| Repayment of interest-bearing liabilities | | –1,711 | –1,450 |
| Dividend paid to shareholders and /or Non-controlling interest | 4 | –846 | –10,462 |
| Investments in marketable securities | 21 | –21,127 | –15,015 |
| Matured marketable securities | | 26,157 | 15,475 |
| Other[1] | | 726 | 905 |
| **Cash flow from financing activities** | | **4,969** | **1,178** |
| **Cash flow for the year** | | **–1,090** | **–3,707** |
| **Cash and cash equivalents at beginning of year** | | **62,265** | **61,592** |
| Exchange difference on cash and cash equivalents | | 2,568 | 4,380 |
| **Cash and cash equivalents at end of year** | 21 | **63,743** | **62,265** |

1) Other is attributable to realised result from financial instruments of SEK 1,058 (947) m and change in Other non-current liabilities of SEK –332 (–42) m.

### Net financial position and liquidity

Total cash and cash equivalents, including marketable securities, decreased to SEK 67.2 (70.3) bn. Net cash decreased to SEK 38.1 (44.8) bn. Liquidity amounted to SEK 83.8 (83.6) bn, including undrawn credit facilities of SEK 16.7 (13.4) bn.

Cash flow from operating activities was positive and amounted to SEK 33.6 (29.9) bn, mainly due to a positive EBITDA of 38.4 (35.3) bn, offset by paid income tax of SEK –4.2 (–3.7) bn, together with a positive development in working capital of SEK 6.5 (–1.6) bn. Volvo Cars continued to invest in the transformation into a fully electric car company and cash flow from investing activities amounted to SEK –39.7 (–34.7) bn.

Cash flow from financing activities amounted to SEK 5.0 (1.2) bn, mainly related to change in marketable securities.

# Notes to the Consolidated Financial Statements

All amounts are in SEKm unless otherwise stated.
Amounts in brackets refer to the preceding year.

## NOTE 1 – GENERAL INFORMATION FOR FINANCIAL REPORTING IN VOLVO CAR GROUP

### Basis of preparation

The consolidated financial statements of Volvo Car AB (publ.) have been prepared in accordance with the International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (IASB), as adopted by the European Union and the Swedish Annual Accounts Act. In addition, RFR 1 Supplementary Rules for Groups has been applied, a standard issued by the Swedish Financial Reporting Board. RFR 1 specifies mandatory additions to the IFRS disclosure requirements in accordance with the Swedish Annual Accounts Act. Group companies apply the same accounting principles, irrespective of national legislation, as defined in Volvo Car Group accounting directives and they have been applied consistently for all periods, unless otherwise stated.

The financial statements are based on cost, apart from certain financial instruments, provisions for pensions and other post-employment benefits which are reported at fair value. Preparation of the financial statements in accordance with IFRS requires the Company's Executive Management and the Board of Directors to make estimations and judgements that affect the value of the reported assets, liabilities, income and expenses. Estimates and judgements will impact the values of assets and liabilities. The actual outcome (value) may differ from these estimates and judgements and corrections may be necessary to make. Therefore, the estimates and judgements are reviewed on a regular basis. Changes are recognised in the period of the change and in future periods if the change affects both.

All accounting policies considered material to Volvo Car Group are described in conjunction with each note. When a new accounting policy has been implemented or when there has been changes in disclosures this is described as part of the relevant note.

The estimates and judgements that are deemed to be the most important for an understanding of Volvo Car Group's financial reports within each area, taking into account the degree of materiality and uncertainty, are presented as part of each applicable note.

In order to avoid duplication of information, cross-references have been made between different parts of the annual report.

### New accounting principles

*New accounting principles 2022*

IASB has published amendments to standards that were endorsed by EU, effective after 1 January 2022. These additions have not had any significant impact on the financial statements.

*New accounting principles 2023*

IASB has published amendments to standards that were endorsed by EU, effective after 1 January 2023. None of these are expected to have a material effect on the financial statements.

### Basis of consolidation

The consolidated accounts include Volvo Car AB (publ.) and its subsidiaries. Subsidiaries are all entities over which Volvo Car Group has control. Volvo Car Group controls an entity when exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity.

All wholly-owned subsidiaries and certain companies owned to 50 per cent, mainly in China, are consolidated, see Note 8 – Participation in subsidiaries (parent company). Subsidiaries are fully consolidated from the date on which control is transferred to Volvo Car Group. They are deconsolidated from the date that control ceases. When a subsidiary is not wholly-owned by Volvo Car Group, the equity related to non-controlling interest is separated reported within Equity.

### Climate change

Being an automotive industry actor, Volvo Cars acknowledge the global threat of climate change and global warming, particularly the importance of our own contribution to prevent global climate action failure and fulfilment of the Paris Agreement. Volvo Cars continuously evaluates how climate change transitional and physical risks affects our business strategy and operations as sustainability is deeply integrated in our business model. We have set the ambition to become a climate neutral company by 2040 and our current climate action emission reduction targets for 2030 are in line with a well below 2-degree scenario as verified by the Science-Based Targets initiative (SBTi). A key enabler is our strategic objective to become a 100 per cent BEV company by 2030. All types of strategic decisions including investment decisions are taken in the context of fulfilling these ambitions and targets

In preparing the consolidated financial statements the potential impact of climate change, future regulatory changes and our transition towards becoming a 100 per cent BEV company by 2030 has been, as far as possible, incorporated as part of the critical accounting estimates and judgements made in the consolidated financial statements. Areas that have been especially considered are the potential impact on the value of non-current assets, future cash flows and emission credits.

Our ambitions and targets are part of Management's business plan and climate related risks are thus also included in the identification of future cash flows to be used when calculating different assets and or cash generating units' recoverable values, including the impairment tests of goodwill and intangible assets with indefinite useful lives. Furthermore, Volvo Car Group regularly assess the useful lives of non-current, non-financial assets which also take into consideration said factors. As an effect, the useful life of our ICE related assets are aligned with our objective to become a 100 per cent BEV company by 2030. Changing regulations and changes in environmental policies are continuously monitored and any obligations are recognised accordingly. In respect to this, during the year Volvo Car Group has recognised in revenue, income from government grants relating to emission credits earned during the period for exceeding the emission targets in certain markets. For more information, see section Emission credits in Note 2 - Revenue.

**Foreign currency**

The primary economic environment is the one in which a group company primarily generates and spends cash. Normally the functional currency is the currency of the country where the company is located. Volvo Car Group's and Volvo Car AB's (publ.) presentation currency is Swedish krona (SEK).

Assets and liabilities denominated in foreign currencies other than the functional currency are translated to the functional currency using the balance sheet closing rate. Exchange rate differences are recognised in the income statement.

Exchange rate differences on operating assets and liabilities are recognised in other operating income and expenses, while exchange rate differences arising on financial assets and liabilities are recognised in financial income and expenses.

When preparing the consolidated financial statements, items in the income statements of foreign subsidiaries are translated to SEK using monthly average exchange rates. Balance sheet items are translated into SEK using exchange rates at year-end (closing rate). Exchange rate differences arising on translation are recognised in other comprehensive income and accumulated in equity. The accumulated translation differences related to subsidiaries, joint ventures or associates are reversed to the income statement as a part of the gain/loss arising from disposal of such a company.

The main exchange rates applied are presented in the table below:

| | | Average rate | | Close rate | |
|---|---|---|---|---|---|
| **Country** | Currency | **2022** | 2021 | **2022** | 2021 |
| China | CNY | 1.50 | 1.32 | 1.51 | 1.43 |
| Euro zone | EUR | 10.58 | 10.13 | 11.12 | 10.29 |
| United Kingdom | GBP | 12.44 | 11.74 | 12.56 | 12.26 |
| United States | USD | 10.05 | 8.53 | 10.40 | 9.07 |
| Japan | JPY | 0.08 | 0.08 | 0.08 | 0.08 |

**Hyperinflation**

In determining hyperinflationary economies, data published by the International Monetary Fund (IMF) and other relevant sources are considered alongside the indicators in IAS 29. From the second quarter 2022, Turkey was deemed to be a hyperinflationary economy and as a consequence IAS 29 has been applied to Volvo Car Group's Turkish business since 1 January 2022.

To reflect changes in purchasing power at the balance sheet date, the carrying amounts of non-monetary assets and liabilities, shareholders' equity and comprehensive income at subsidiaries in hyperinflationary economies are restated in terms of the measuring unit current at the balance sheet date. These are indexed using a general price index in accordance with IAS 29. The Turkish subsidiary's financial statements are based on a historical cost approach and have been restated retrospectively in order to reflect the current purchasing power of their functional currency, the Turkish lira. Pursuant to IAS 21 paragraph 42, the comparative amounts of the previous reporting period were not restated. The restatements have been made based on the Consumer Price Index (CPI) which on 31 December 2022, have increased by 156 per cent and 64 per cent on a 3-year and 12-month cumulative rate respectively. The application of the standard does not have a material effect on the Group's profitability, liquidity and overall financial position.

**Classification of current and non-current assets and liabilities**

An asset is classified as current when it is held primarily for the purpose of trading, is expected to be realised within twelve months after the balance sheet date or consists of cash or cash equivalents, provided it is not subject to any restrictions. All other assets are classified as non-current. A liability is classified as current when it is held primarily for the purpose of trading or is expected to be settled within twelve months after the balance sheet date and Volvo Car Group do not have the right to defer settlement of the liability for at least twelve months after the balance sheet date. All other liabilities are classified as non-current.

When the criteria for being classified as a non-current asset held for sale are fulfilled and the asset or disposal group are of significant value, the asset or disposal group and the related liabilities are recognised on a separate line in the balance sheet.

## NOTE 2 – REVENUE

### ACCOUNTING POLICIES

Revenue is recognised when the customer obtains control of a delivered good or service, and thus has the ability to direct the use and obtain the benefits from the goods or services. Revenue could either be recognised at a point in time or over time depending on the applied business model. The sale of goods or services will sometimes give rise to recognition of contract liabilities to customers. These liabilities are recognised when Volvo Car Group are obligated to transfer goods or services for which consideration is already received. Contract liabilities to customers include sales generated obligations, deferred revenue from service contracts, sales with repurchase commitments and residual value guarantees as well as advance payments from customers.

*Revenue from sale of goods*

Revenue is recognised when the customer has gained control over the goods according to agreed contract terms. If the customer contracts include variable considerations or consideration payables the revenue recognised will be affected. If a variable consideration or a consideration payable, e.g., a volume discount or incentive programme, is paid out at a later point in time then the revenue for the good or service is recognised, the value is estimated and recognised as a contract liability.

Revenue from sale of a vehicle to a customer, where there is a residual value guarantee issued to an independent financing provider, is recognised at the time of sale, less an amount corresponding to the estimated residual value risk. The estimated residual value risk remaining in Volvo Car Group is recognised as a contract liability, see Note 25 – Current and non-current contract liabilities to customers. Revenue is only recognised provided that transfer of control over the vehicle can be confirmed.

Revenue from sale of a vehicle to a customer combined with a repurchase commitment (the right or obligation (put option) to buy back the car) is recognised over the contract period as if it were an operating lease contract. This is based on the fact that the customer has not obtained the control of the vehicle. Based on historical experience a majority of customers use the put option at the end of the contract period. During the contract period the cars are recognised on the balance sheet and are depreciated to the estimated residual value, see Note 9 – Depreciation and amortisation. The useful life of the asset and the corresponding residual value is monitored closely and changed, if necessary, see Note 18 – Inventories and Note 16 – Tangible assets. Liabilities related to repurchase commitments are recognised as other non-current and other current liabilities, see Note 26 – Other non-current liabilities and Note 27 – Other current liabilities. Deferred revenue related to sale with repurchase commitments are recognised as current and non-current contract liabilities to customers, see Note 25 – Current and non-current contract liabilities to customers.

*Revenue from sale of services*

Volvo Car Group sells services in the form of for example maintenance contracts and extended warranties to customers. Revenue from these sales is deferred and recognised on a straight-line basis over the contract period. The deferred revenue is recognised as contract liabilities to customers, since the customer's payment is made before the service is performed. When an extended warranty contract is included in the sales price of the car, and the inclusion in the contract is assessed to be common practice in the market, such extended warranty costs is recognised as a provision. Where an extended warranty is included in the sale of a car and the offer goes beyond common practice in the market, it is instead accounted for as a separate performance obligation; a stand-alone selling price is identified, and revenue is recognised on a straight-line basis over the contract period. The stand-alone selling price is not directly observable, why the price in general is estimated based on expected cost plus a reasonable margin.

*Revenue from subscription, leasing and rental business*

Revenue from subscription, leasing and rental business is recognised as revenue on a straight-line basis over the contract period. Revenue related to an operating lease arrangement is recognised on a straight-line basis over the leasing period.

*Revenue from sale of licences*

Revenue from the sale of licences is recognised at a point in time or over time, depending on whether the sold licence gives the customer a right to use or a right to access the underlying asset. Volvo Car Group sells both types of licences and revenue is therefore recognised in accordance with the substance of the relevant agreement. Income from sold licences related to intellectual property (IP) and other developed technology is classified as revenue.

*Emission credits*

Volvo Cars recognises in revenue, income from government grants relating to emission credits earned during the period for exceeding the emission targets in certain markets when the credits can be sold or consumed in the future and a fair value for the credits received can be determined. The earned credits are classified as inventories until they are either sold to a third-party or consumed in Volvo Cars operations. See Note 10 – Government Grants and Note 18 – Inventories for more information.

## CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

***Variable consideration***

The inherent risk with regard to different forms of variable considerations is the probability of a reversal of revenue in future periods. As a consequence, Volvo Car Group use either the expected value method or the most likely amount as appropriate when assessing the variable sales price. Revenue is recognised when it is highly probable that a revenue reversal in future periods will not occur. Estimates and judgements initially made are updated continuously at each reporting period.

*Volume discounts*

Cars may be sold with volume discounts based on aggregate sales over a 3–12 months period. Revenue from these sales is recognised based on the price specified in the contract, adjusted for volume discounts for the wholesales period. Accumulated historical experience is used to estimate and calculate the total discount. A contract liability is recognised for expected volume discounts to customers in relation to sales made.

*Residual value guarantees*

Volvo Car Group is exposed to residual value risks, meaning that there is a potential loss for Volvo Car Group if the future market value of a used car is lower than the guaranteed value of the car according to the contract. This potential negative effect is recognised as a contract liability and the future market value of cars is monitored individually on a continuing basis with a special emphasis on residual value of internal combustion engine vehicles in line with the market shifting towards electric vehicles. An estimate is made based on evaluating recent car auction values, future price deterioration due to expected change of market conditions, vehicle quality data and repair and reconditioning costs etc.

*Repurchase Commitments*

Cars sold with a repurchase obligation are recognised in the balance sheet as assets under operating leases or inventories depending on the contract period. During the contract period there is risk for a potential loss for Volvo Car Group if the estimated value of the car is lower than the market value at the time. The potential negative effect is recognised as an increased depreciation or an impairment of the car. An estimate of the value of the car is therefore made based on recent car auction values, future price deterioration due to expected change of market conditions, vehicle quality data and repair and reconditioning costs etc. The value of the car in the balance sheet is adjusted if necessary.

***Consideration payables***

When the customer as part of a sale transaction will receive cash or goods with a monetary value, revenue will be recognised net of the consideration paid to the customer.

| **Revenue allocated to geographical regions:** | **2022** | 2021 |
|---|---|---|
| China | 70,924 | 63,526 |
| US | 62,070 | 52,015 |
| Europe | 144,150 | 121,027 |
| *of which Sweden* | *44,923* | *28,245* |
| *of which Germany* | *19,015* | *16,823* |
| *of which United Kingdom* | *16,159* | *15,610* |
| Other markets | 53,001 | 45,477 |
| *of which Japan* | *8,339* | *7,477* |
| *of which South Korea* | *6,024* | *5,893* |
| **Total** | **330,145** | **282,045** |

| Revenue allocated to category: | 2022 | 2021 |
|---|---|---|
| Sales of new cars | 252,747 | 218,371 |
| Sales of used cars | 16,405 | 21,096 |
| Sales of parts and accessories | 30,778 | 25,983 |
| Revenue from subscription, leasing and rental business | 4,473 | 3,497 |
| Sales of licences and royalties | 887 | 2,670 |
| Contract manufacturing | 20,288 | 1,627 |
| Emissions credits | 505 | — |
| Other revenue | 4,062 | 8,801 |
| **Total** | **330,145** | **282,045** |

*Revenue recognised in relation to contract liabilities to customers*

For revenue recognised in the current reporting period in relation to opening balance of contract liabilities see Note 25 – Current and non-current contract liabilities to customers. The majority of Volvo Car Group´s contract liabilities are classified as current and will most likely be recognised as revenue during the coming year.

## NOTE 3 – EXPENSES BY NATURE

| | 2022 | 2021 |
|---|---|---|
| Material cost incl. freight, distribution and warranty | –236,127 | –188,835 |
| Personnel | –36,776 | –37,215 |
| Amortisation/depreciation | –16,091 | –15,005 |
| Other | –24,818 | –21,407 |
| **Total** | **–313,812** | **–262,462** |

The amounts presented as Personnel have been reduced by capitalised salary costs related to product development. Received government grants (see Note 10 – Government grants) have reduced the amounts presented as Personnel and Other.

## NOTE 4 – RELATED PARTY TRANSACTIONS

### ACCOUNTING POLICIES

Volvo Car Group has a close collaboration with its related parties. The main part of the transactions relates to sale of cars, components, licences and technology. Related parties include companies outside the Volvo Car Group, but within the Geely sphere of companies as well as other companies, such as associates and joint ventures. All transactions with related parties are performed at arm's length.

### Significant transactions and agreements with Related parties during the year

- In January, Volvo Cars and Northvolt jointly established NOVO Energy AB and its subsidiaries NOVO Energy R&D AB and NOVO Energy Production AB with the aim to accelerate the development and production of sustainable batteries. Volvo Cars and Northvolt will jointly invest in a new R&D centre and a battery manufacturing plant in Gothenburg. The gigafactory is planned to commence its operations in 2025. During 2022, capital contributions amounting to SEK 158 m has been paid from Volvo Cars to NOVO Energy AB.
- On 31 January, Volvo Car Group finalised the separation of its combustion engine operations and the control of the 50 per cent owned subsidiary Zhangjiakou Volvo Car Engine Manufacturing Co., Ltd was transferred to the acquirer, the newly established associated company Zhejiang Aurobay Powertrain Co., Ltd (Aurobay), China, for further information see Note 31 - Business Combinations and Divestments. During 2022, Volvo Cars (China) Investment Co., Ltd has made share capital and other capital contribution of SEK 1,696 m to Aurobay.
- In August, Aurobay acquired 100 per cent of the shares in Powertrain Engineering Sweden AB (PES) and Powertrain Engineering Sweden Real Estate AB from Geely Sweden Holdings AB.
- In November, Volvo Cars (China) Investment Co., Ltd and Zhejiang Geely Chantou Holding Co., Ltd signed an equity transfer agreement regarding Aurobay. The divestment transaction was closed on 30 December and Volvo Cars (China) Investment Co., Ltd entire shareholding of 33 per cent in Aurobay was transferred to the acquirer Zhejiang Geely Chantou Holding Co., Ltd. The consideration amounted to SEK 1,528 m.
- As of 24 June, the Polestar Group was listed on the Nasdaq Stock Exchange in New York in a de-SPAC process through a merger with the SPAC company Gores Guggenheim. The listing transactions had several financial effects for Volvo Cars. For further information, see Note 12 - Investments in joint ventures and associates.
- In November, Volvo Cars signed a facility agreement with Polestar with the intention of providing them with a credit facility of USD 800 m. Polestar will be able to draw funds from the credit facility during a 18-month period. Any drawn funds (total loan) will be repaid by May 2024. The loan also includes an option for Volvo Cars to convert the loan to equity, if Polestar during the period chooses to finance the operations by issuing new shares. The potential conversion is also limited due to Volvo Cars' ownership in Polestar not being able to equal or exceed 50 per cent. The convertible bond will be recognised as a long-term security holding or as an other current asset in the balance sheet depending on when Polestar draws funds. The bond will be valued measured at fair value through income statement taking into consideration the conversion mechanism of the instrument.
- Polestar Automotive Holding Ltd (Hong Kong) made a contribution in kind to its shareholders regarding its shares in Polestar Automotive Holding UK PLC.
- In December, Volvo Cars acquired the remaining 13.5 per cent of the shares in Zenseact AB from ECARX Technology Ltd and is now a wholly-owned company to Volvo Cars. Purchase consideration amounted to SEK 1,196 m.

### Events with Related parties after the balance sheet date

- On 6 January 2023, Volvo Car Group, through one of its wholly-owned subsidiaries, Asia Euro Automobile Manufacturing (Taizhou) Co., Ltd. acquired 100 per cent of the shares in Taizhou Luqiao Jijin Automobile Manufacturing Co., Ltd. The acquired company owns land and building related to the manufacturing plant in Luqiao, Taizhou, China. The purchase consideration amounted to SEK 2,865 m.

### Tables of transactions with Related Parties

The information presented below includes all assets and liabilities regarding related parties. All assets and liabilities are current except non-current assets of SEK 966 (5,196) m. For further details refer to section Specification of transactions with Related Parties.

| | Sales of goods, services and other | | Purchases of goods, services and other | |
|---|---|---|---|---|
| | **2022** | 2021 | **2022** | 2021 |
| Related companies[1)2)3)] | 24,962 | 7,128 | –26,202 | –12,665 |
| Associated companies and joint ventures | 1,627 | 1,448 | –2,701 | –1,815 |

| | Receivables | | Payables | |
|---|---|---|---|---|
| | **31 Dec 2022** | 31 Dec 2021 | **31 Dec 2022** | 31 Dec 2021 |
| Related companies[1)] | 21,043 | 18,626 | 13,414 | 4,758 |
| Associated companies and joint ventures | 1,377 | 991 | 466 | 499 |

1) Related companies are companies within the Geely sphere of companies. Joint ventures within the Geely sphere are presented as Related companies. For joint ventures and associated companies see Note 12 – Investments in joint ventures and associates.
2) Increase in 2022 compared to previous year is mainly related to acquisition of the Taizhou plant and contract manufacturing.
3) Increase in 2022 compared to previous year is mainly related to the separation of ICE powertrain operations.

### Specification of transactions with Related Parties

***The Polestar Group***

Volvo Car Group recognised revenue from the Polestar Group of SEK 21,837 (3,967) m. The increase in revenue was mainly related to sale of Polestar cars from the Taizhou plant acquired in December 2021, technology licences and development of technology as well as revenue related to sale of other services.

***Zhangjiakou Aurobay Powertrain Manufacturing Co., Ltd***

The Zhangjiakou plant is since 31 January 2022 a related party to Volvo Car Group. The purchase of combustion engines amounted to SEK –6,956 m and has mainly been recognised as cost of sales.

***Powertrain Engineering Sweden AB (PES)***

Powertrain Engineering Sweden AB (PES) is, with effect from 30 June 2021, a related party to Volvo Cars. The total purchases from Powertrain Engineering Sweden AB amounted to SEK –10,930 (–5,039) m, mainly related to combustion engines and product development and has mainly been recognised as cost of sales.

***Zhejiang Liankong Technology Co., Ltd and Zhejiang Ji Run Auto Co., Ltd***

The purchase of research and development services from Zhejiang Liankong Technology Co., Ltd and Zhejiang Ji Run Auto Co., Ltd amounted to SEK –1,885 m and the entire amount has been capitalised as intangible assets.

***Ningbo Fuhong Auto Sales Co., Ltd***

Total revenue from sales of cars to Ningbo Fuhong Auto Sales Co., Ltd amounted to SEK 1,545 (969) m.

***Ningbo Geely Automobile Research&Develepment Co., Ltd***

The purchase of research and development services from Ningbo Geely Automobile Research&Develepment Co., Ltd amounted to SEK –1,358 (–938) m, which mainly has been capitalised as intangible assets.

***Viridi E-Mobility Technology (Ningbo) Co., Ltd***

The purchases of batteries from Viridi E-Mobility Technology (Ningbo) Co., Ltd amounted to SEK –1,553 m and has been recognised as cost of sales.

***Zhejiang Geely Holding Group Co., Ltd***

Total dividend of SEK 846 (9,691) m was distributed to the shareholder Zhejiang Geely Holding Group Co., Ltd, whereof SEK 840 (9,199) m from the 50 per cent owned subsidiary Daqing Volvo Car Manufacturing Co., Ltd, SEK 6 (—) m from the 50 per cent owned subsidiary Shanghai Volvo Car Research and Development Co., Ltd and SEK — (492) m from the divested, previously 50 per cent owned, subsidiary Zhangjiakou Volvo Car Engine Manufacturing Co., Ltd.

***Geely Sweden Holdings AB***

Dividends distributed to preference shareholders of SEK - (179) m and SEK - (5,979) m to the main shareholder Geely Sweden Holdings AB. The dividend to Geely Sweden Holdings AB was, following a decision by the Board, settled through distribution of the entire shareholding in Powertrain Engineering Sweden AB and Powertrain Engineering Sweden Real Estate AB, with a net effect in the Group Equity of SEK 5,530 m due to the fair value of the shares being higher than their carrying amount.

Volvo Car Group does not engage in any transactions with Board members or senior executives except ordinary remunerations for services and the sharebased programme as described in Note 8 - Employees and remuneration.

## NOTE 5 – AUDIT FEES

| | 2022 | 2021 |
|---|---|---|
| **Deloitte** | | |
| Audit fees | –49 | –43 |
| Audit-related fees | –3 | –14 |
| Tax services | –2 | –1 |
| Other services | –6 | –5 |
| **Total** | **–60** | **–63** |
| Audit fees to other audit firms | –1 | — |
| **Total** | **–61** | **–63** |

**Audit fees** involve audit of the Annual Report, interim report and the administration by the Board of Directors and the Managing Directors. The audit also includes advice and assistance as a result of the observations made in connection with the audit.

**Audit-related fees** refer to other assignments to ensure quality in the financial statements including consultations on reporting requirements and internal control.

**Tax services** include tax-related advisory.

All other work performed by the auditor is defined as **other services**.

## NOTE 6 – OTHER OPERATING INCOME AND EXPENSES

In 2022, Volvo Cars has changed the presentation of Other operating income and Other operating expenses in the Consolidated Income Statements. Other operating income and Other operating expenses are presented net on one line item. Presented in the previous manner, Other operating income and Other operating expenses in 2022 would amount to SEK 3 250 m and SEK –1 694 m respectively for the Group. Items presented within the line item are consistent with what has been previously disclosed in the Annual Report 2021, Note 6 – Other operating income and expenses.

| | **2022** | 2021 |
|---|---|---|
| **Other operating income** | | |
| Foreign exchange rate gains[1)] | 800 | 1,597 |
| Sold services | 858 | 1,107 |
| Government grants | 231 | 86 |
| Other | 1,361 | 1,354 |
| **Total** | **3,250** | **4,144** |

| | **2022** | 2021 |
|---|---|---|
| **Other operating expenses** | | |
| Amortisation and depreciation of intangible and tangible assets | –31 | –388 |
| Property tax | –132 | –124 |
| Other | –1,531 | –1,989 |
| **Total** | **–1,694** | **–2,501** |

1) The gross foreign exchange rate gain on operating assets and liabilities amounted to SEK 2,664 (1,929) m. The gross foreign exchange rate loss on operating assets and liabilities amounted to SEK –1,864 (–332) m.

## NOTE 7 – LEASING

### ACCOUNTING POLICIES

*Volvo Car Group as a lessee*

At the lease commencement date, a right-of-use asset and a lease liability are recognised on the balance sheet. The lease liability is initially measured at an amount equal to the present value of the future lease payments under the lease contract. Lease payments included in the measurement of the lease liability comprise of fixed lease payments including in-substance fixed payments, variable lease payments that depend on an index or a rate, amounts expected to be payable under a residual value guarantee and payments related to options that Volvo Car Group is reasonably certain to exercise. The lease payments are discounted using the interest rate implicit in the lease if this can be readily determined. In cases where the interest rate is not implicit in the lease, Volvo Car Group generally has used the incremental borrowing rate.

The right-of-use asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and the estimate of costs to dismantle and remove the underlying asset or the site on which it is located, less any lease incentives received. The asset is subsequently depreciated on a straight-line basis from the commencement date to the earlier of the end of the useful life of the underlying asset or the end of the lease term. For more information regarding deprecation see Note 9 – Depreciation and amortisation. The right-of-use asset is reduced by impairment losses, if any, and adjusted for certain remeasurements of the lease liability.

Volvo Car Group applies the recognition exemptions regarding short-term leases and leases where the underlying asset is of low value. Hence, payments associated with short-term leases and leases of low-value assets are recognised on a straight-line basis as an expense in the income statement. Short-term leases are leases with a lease term of 12 months or less and low value assets are defined as asset classes that are typically of low value, for example small IT equipment (cellphones, laptops, computers, printers) and office furniture. Non-lease components are included in the measurement of the lease liability for all asset classes.

In the balance sheet, lease liabilities are presented as Other non-current and current interest-bearing liabilities. The asset is presented as a right of use asset, see Note 16 – Tangible assets. In the income statement, depreciation of the right-of-use asset is presented on the same line item/items with similar expenses. Interest expense on the lease liability is presented as part of finance expenses. In the statement of cash flows, amortisation on the lease liability is presented as a cash flow from financing activities. Payments of interest as well as payments for short-term leases and leases of low value are presented as cash flow from operating activities.

*Volvo Car Group as a lessor*

When Volvo Car Group is a lessor the accounting treatment differs based on the classification into operating and finance leases. The classification is made on the basis of the distribution of risks and rewards incidental to ownership of the lease asset. If they are transferred to the lessee, it is classified as a finance lease or if it remains with Volvo Cars it is classified as an operating lease.

Volvo Car Group is acting as a manufacturer finance lessor in a few cases. In these cases, revenue is recognised at fair value of the underlying asset or the present value of the lease payments if it is lower. Cost of sales is recognised corresponding to the carrying amount of the underlying asset less the present value of any unguaranteed residual values.

When accounting for other finance leases, the lease asset is derecognised, and instead a receivable is recognised in the amount of the net investment in the lease, corresponding to the present value of the lease payments less any unguaranteed residual values. Any initial direct costs are included in the net investment in the lease. Income is recognised over the lease term using the effective interest rate.

Sale transactions including repurchase commitments are recognised as operating leases. Operating lease contracts with a maturity less or equal to 12 months are recognised as inventory, see Note 18 – Inventories. Operating lease contracts with a maturity more than 12 months are recognised as an asset under operating lease, see Note 16 – Tangible assets. These operating leases are mainly related to vehicles sold with repurchase commitments and contracts under the name of Care by Volvo. In sales with repurchase commitments, the difference between the original sales price and the repurchase price is recognised in the income statement as revenue on a straight-line basis over the lease term, see Note 2 – Revenue. The remaining lease revenue yet to be recognised is presented as part of current and non-current contract liabilities to customers in the balance sheet, see Note 25 – Current and non-current contract liabilities to customers. The repurchase obligation is considered to be a financial liability and is classified as non-current or current liabilities, see Note 26 – Other non-current liabilities and see Note 27 – Other current liabilities.

Sub-leases and sale and leaseback transactions are not considered material for Volvo Car Group.

## CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

Complex contracts requires Volvo Car Group to make judgemental decisions when determining the lease term for contracts, especially for the leasing of buildings. Factors included in the determination of the lease term are if Volvo Car Group, as a lessee, has made investments to improve the asset or tailored it for our special needs and/or the importance of the underlying asset to Volvo Car Group's operations.

### Lease term

When determining the lease term, management is considering all facts and circumstances that create an economic incentive to exercise an extension option, or not to exercise a termination option in addition to the non-cancellable lease term. In determining the lease term, those options are only considered if they are reasonably certain. The assessment is reviewed if a significant event or a significant change in circumstances occurs that may affect the assessment.

### Discount rate

When determining the discount rate, Volvo Car Group uses an applicable industrial yield curve and takes into consideration for example credit risk, adjustment for currency, lease term and economic environment.

### *Volvo Car Group as lessee*

Volvo Car Group mainly leases buildings and other items such as IT-equipment and production equipment.

| Right-of-use asset | Buildings and land | Machinery and equipment | Total |
|---|---|---|---|
| **Acquisition cost** | | | |
| Balance at 1 January 2021 | 6,900 | 1,108 | **8,008** |
| Additions | 1,273 | 123 | **1,396** |
| Acquired through business combinations | 1,230 | 1 | **1,231** |
| Divestments and disposals | –353 | –264 | **–617** |
| Reclassifications | 3 | — | **3** |
| Effect of foreign currency exchange rate differences | 299 | 17 | **316** |
| **Balance at 31 December 2021** | **9,352** | **985** | **10,337** |
| Additions | 889 | 99 | **988** |
| Divested through business combinations | –248 | — | **–248** |
| Divestments and disposals | –358 | –166 | **–524** |
| Reclassifications | 35 | — | **35** |
| Effect of foreign currency exchange rate differences | 311 | 27 | **338** |
| **Balance at 31 December 2022** | **9,981** | **945** | **10,926** |
| **Accumulated depreciation** | | | |
| Balance at 1 January 2021 | –1,748 | –292 | **–2,040** |
| Depreciation expense | –1,138 | –249 | **–1,387** |
| Acquired through business combinations | –92 | — | **–92** |
| Divestments and disposals | 25 | 77 | **102** |
| Reclassifications | 2 | 11 | **13** |
| Effect of foreign currency exchange rate differences | –2 | 9 | **7** |
| **Balance at 31 December 2021** | **–2,953** | **–444** | **–3,397** |
| Depreciation expense | –1,401 | –179 | **–1,580** |
| Divested through business combinations | 36 | — | **36** |
| Divestments and disposals | 257 | 85 | **342** |
| Reclassifications | –5 | — | **–5** |
| Effect of foreign currency exchange rate differences | –104 | –13 | **–117** |
| **Balance at 31 December 2022** | **–4,170** | **–551** | **–4,721** |
| **Net balance at 31 December 2021** | **6,399** | **541** | **6,940** |
| **Net balance at 31 December 2022** | **5,811** | **394** | **6,205** |

| Lease liabilities | 2022 | 2021 |
|---|---|---|
| Non-current lease liabilities | 4,845 | 5,509 |
| Current lease liabilities | 1,515 | 1,477 |

The maturity analysis of lease liabilities is presented in Note 20 – Financial instruments and financial risks.

| Amounts recognised in income statement | 2022 | 2021 |
|---|---|---|
| Deprecation expenses on right-of-use assets | –1,580 | –1,387 |
| Interest expense on lease liabilities | –220 | –215 |
| Expense relating to short-term leases | –177 | –134 |
| Expense relating to leases of low value assets | –58 | –72 |
| Expense relating to variable lease payments not included in the measurement of the lease liability | –44 | –45 |
| Income from sub-leasing right-of-use assets | 172 | 159 |

The total cash outflow for leases amounts to SEK 1,907 (1,694) m. The amount include payments for lease agreements recognised as liabilities, variable payments, short-term payments and payments for leases of low value.

### *Volvo Car Group as lessor*

Operating lease contracts mainly relate to vehicles sold with repurchase commitments and contracts under the name of Care by Volvo.

### Operating leases contracts

The table contains a maturity analysis of lease payments and the total of undiscounted lease payments that will be received after the balance sheet date.

| Future lease income of operating lease contracts, undiscounted | 2022 | 2021 |
|---|---|---|
| No later than 1 year | 2,089 | 1,678 |
| Later than 1 year but no later than 2 years | 1,146 | 747 |
| Later than 2 year but no later than 3 years | 360 | 75 |
| Later than 3 year but no later than 4 years | 39 | 21 |
| Later than 4 year but no later than 5 years | 21 | 17 |
| Later than 5 years | 77 | 86 |
| **Total** | **3,732** | **2,624** |

### Finance lease contracts

Volvo Car Group acts as a lessor in finance leasing arrangements for cars in China as well as a manufacturing finance lessor.

| Amounts receivable under finance leases | 2022 | 2021 |
|---|---|---|
| No later than 1 year | 1,109 | 154 |
| Later than 1 year but no later than 2 years | 1,355 | 282 |
| Later than 2 year but no later than 3 years | 810 | 199 |
| Later than 3 year but no later than 4 years | 618 | 40 |
| Later than 4 year but no later than 5 years | 448 | 19 |
| Later than 5 years | | — |
| **Undiscounted lease payments** | **4,340** | **694** |
| Less unearned finance income | 335 | 37 |
| **Net investment in the lease** | **4,005** | **657** |

The following table presents the amounts included in income statement

| | 2022 | 2021 |
|---|---|---|
| Finance income on the net investment in finance leases | 189 | 7 |

## NOTE 8 – EMPLOYEES AND REMUNERATION

### ACCOUNTING POLICIES

### Incentive programmes

Volvo Car Group manages in total five different global incentive programmes, whereof two are short-term and three are long-term. In addition, the long term Polestar share-based programme was terminated during the year:

***Short-term***

- The Short-Term Variable Pay Programme for Senior Leaders (STVP for Senior Leaders)
- The Volvo Bonus programme

***Long-term***

- The Long-Term Variable Pay (LTVP) programme
- The Performance share programme (PSP)
- The Employee share matching programme (ESMP)
- The Polestar share-based programme

The design and pay-out of all programmes are subject to approval of the Board of Directors. Certain decisions related to the share-based programmes are subject to decision by the Annual General Meeting.

### Short-term incentive programmes

For the short-term incentive programmes a liability is recognised if all prerequisites are met and the cost is recognised as an operating expense.

### Long-term incentive programmes

***Cash-settled long-term programmes***

The fair value of the cash-settled programme is determined at the grant date, revalued at each balance sheet date, and is recognised as an operating expense during the vesting period and as a corresponding liability. An assessment whether the terms for allotment will be fulfilled is made continuously. Based on such assessment, the expense might be adjusted.

***Share-based long-term programmes***

The fair value of the share-based programmes are based on the share price reduced by dividends connected with the share during the vesting period. Additional social expenses are reported as a liability, revalued at each balance sheet date.

The aim of these share-based programmes is to generate engagement and commitment to the organisation on a long-term basis. The PSP is entirely equity-settled while the ESMP programme contains both equity-settled and cash-settled components. For components of the programmes that are equity-settled, the total compensation expense is based on the fair value at the grant-date together with consideration of any relevant performance conditions and is recognised over the relevant service period, with a corresponding increase in equity. All share-based payment programmes with employees have a service component while one has performance components as well. The amount recognised as an expense is adjusted to consider the total number of awards for which the relevant non-market performance conditions and service conditions are expected to be met, the result is that the amount ultimately recognised is based on the actual number of awards that meet the relevant service and non-market performance conditions at the vesting date. For share-based payment transactions with non-vesting conditions, the grant-date fair value is adjusted to reflect these conditions.

For components of the ESMP that are cash-settled, the liability is valued based on the fair value of the liability and is revalued at the end of each reporting period, with any changes in fair value recognised in the income statement for the period.

### Polestar programme

During the year the Polestar programme, a share-based incentive programme was terminated. The programme was cash-settled based on the participants option to receive cash at fair value for the shares under certain circumstances and during predetermined periods. Based on this a liability was recognised in Volvo Car Group´s balance sheet.

| Average number of employees by region[1]: | 2022 | Of whom women | 2021 | Of whom women |
|---|---|---|---|---|
| Sweden | 21,371 | 27% | 22,718 | 27% |
| Nordic countries other than Sweden | 715 | 40% | 641 | 35% |
| Belgium | 5,142 | 14% | 4,749 | 14% |
| Europe other than the Nordic countries and Belgium | 1,584 | 33% | 1,452 | 36% |
| North and South America | 2,229 | 33% | 1,876 | 35% |
| China | 11,006 | 16% | 8,422 | 16% |
| Asia other than China | 1,021 | 22% | 929 | 20% |
| Other countries | 101 | 40% | 104 | 40% |
| **Total** | **43,169** | **23%** | **40,891** | **24%** |

| Number of Board members and senior executives[2] | 31 Dec 2022 Board members (Chief Executive Officers and senior executives) | Of whom women | 31 Dec 2021 Board members (Chief Executive Officers and senior executives) | Of whom women |
|---|---|---|---|---|
| Parent company | 10 | 30% | 12 | 25% |
| Subsidiaries | 95 (288) | 22% (31%) | 110 (313) | 21% (29%) |
| **Total** | **105 (288)** | **23% (31%)** | **122 (313)** | **21% (29%)** |

| Salaries and other remunerations | 2022 Wages and salaries, other remunerations | 2022 Social security expenses (of which pension expenses) | 2021 Wages and salaries, other remunerations | 2021 Social security expenses (of which pension expenses) |
|---|---|---|---|---|
| Parent company | 12 | 3(—) | 17 | 4(—) |
| Subsidiaries | 24,873 | 9,630 (4,789) | 22,951 | 9,360 (4,738) |
| **Total** | **24,885** | **9,633 (4,789)** | **22,968** | **9,364 (4,738)** |

| Salaries and other remuneration to the Board[3], CEO, Executive Management Team (EMT)[4] and other employees | 2022 Wages and salaries, other remunerations (of which variable salaries) | 2022 Social security expenses (of which pension expenses) | 2021 Wages and salaries, other remunerations (of which variable salaries) | 2021 Social security expenses (of which pension expenses) |
|---|---|---|---|---|
| Board, Chief Executive Officers and EMT | 347 (115) | 131 (51) | 355 (131) | 152 (65) |
| Other employees | 24,538 | 9,502 (4,745) | 22,613 | 9,212 (4,673) |
| **Total** | **24,885 (115)** | **9,633 (4,789)** | **22,968 (131)** | **9,364 (4,738)** |

1) The FTE number in 2021 and 2022 reflects temporary layoffs.
2) Senior executives are defined as key personnel within the subsidiaries.
3) The Board includes all Board members in the subsidiaries within Volvo Car Group.
4) The Executive Management Team (EMT) consists of the CEO in Volvo Car Corporation and key management personnel other than Board members, in total 7 (11).

### *Compensation to Board members*

The shareholders have elected a Nomination Committee, which on a yearly basis proposes appropriate remuneration principles and remuneration for Volvo Cars Board within the frames of the remuneration principles decided by the Annual General Meeting. The remuneration to the members of the Board is determined at the Annual General Meeting. At the Annual General Meeting 2022 it was decided that Board members elected at the meeting who are employed or otherwise remunerated by Volvo Car Group or the Zhejiang Geely Holding Group shall not be entitled to any remuneration. The other Board members elected at the Annual General Meeting shall receive remuneration containing the following elements: (i) a market based fixed remuneration decided at the Annual General Meeting (ii) a company car in accordance with the Group´s company car policy in force from time to time and (iii) to Board members who are members of any of the Boards' committees an additional market based fixed remuneration as decided at the Annual General Meeting.

In observance of the Board of Directors hard work to achieve a listing of the Company´s shares on Nasdaq Stockholm in 2021, an Extraordinary General Meeting during 2021 resolved, based on a proposal from the Nomination Committee, on a cash one-off payment to the members of the Board of Directors that were not employed or otherwise remunerated by Volvo Car Group or the Zhejiang Geely Holding Group. The Board one-off payment (gross) corresponded to 75 per cent of the board remuneration resolved by the Annual General Meeting 2021. Board members whose assignments had been shorter than three years received a reduced cash amount where the size of the amount was calculated pro rata with one-third per year. A condition for receiving the one-off payment was that the cash amount, net after deduction of preliminary tax, was reinvested by acquiring common shares of class B in Volvo Car AB (publ.). This was in order to keep the Board of Directors strong engagement in Volvo Car Group, and to further align the Board members and the Groups interests in accordance with the share ownership policy for members of the Board. Expensed remuneration to the individual Board members is specified below:

| Board member | **2022** Ordinary compensation, TSEK | **2022** Other compensation, TSEK | 2021 Ordinary compensation, TSEK | 2021 Other compensation, TSEK |
|---|---|---|---|---|
| Li Shufu, Chairperson | — | — | — | — |
| Li Donghui | — | — | — | — |
| Lone Fønss Schrøder | 3,086 | — | 2,665 | 1,950 |
| Thomas Johnstone | 1,345 | — | 1,085 | 769 |
| Winfried Vahland | 1,273 | — | 959 | 675 |
| Jonas Samuelsson | 1,301 | — | 934 | 219 |
| Diarmud O'Connell (from March 2021) | 1,219 | — | 650 | 94 |
| Lila Tretikov (from March 2021) | 1,256 | — | 650 | 94 |
| Anna Mossberg (from May 2022) | 739 | — | — | — |
| Jim Rowan (from May 2022) | — | — | — | — |
| Håkan Samuelsson (until March 2022) | — | — | — | — |
| Winnie K. W. Fok (until March 2021) | — | — | 225 | — |
| Betsy Atkins (until May 2022) | 490 | — | 1,059 | 750 |
| Michael Jackson (until May 2022) | 519 | — | 1,114 | 788 |
| Jim Zhang (until May 2022) | 490 | — | 1,059 | 750 |
| **Total** | **11,718** | — | **10,400** | **6,089** |

### *Terms of employment and remuneration to the CEO*

The Board has assigned a People Committee (PC) to determine the remuneration principles for the CEO, subject to the shareholders' meetings approval. The chairperson of the Board shall in dialogue with PC decide the remuneration to the CEO. The CEO is entitled to a remuneration consisting of a fixed annual salary, STVP, PSP and other benefits such as a company car and insurance.

In order to retain critical competences and deliveries within Volvo Car Group, the CEO has an additional variable pay and an annual cash payment. The additional variable pay programme is a three year programme based on fulfillment of the CEO's yearly individual objectives and can vary from 0 up to maximum SEK 5.5 m depending on fulfillment rate. The annual cash payment of SEK 10.9 m was paid as a sign on bonus and will be paid as a retention award for employment year one and employment year two.

The CEO is covered by the ITP plan and a supplementary pension plan – Volvo Management Pension (VMP). On average, the contributions for the CEO is 30 per cent of the pensionable salary. Disability benefits follow the ITP and VMP regulations.

The notice period for the CEO is a maximum of twelve months in case of termination by either Volvo Car Group or the CEO. Furthermore, the CEO is, in case of termination by Volvo Car Group, entitled to severance pay based on the fixed salary, during a period of maximum twelve months.

***Terms of employment and remuneration to the Deputy CEOs***

The Board has assigned a People Committee (PC) to determine the remuneration to the Deputy CEOs, proposed by the CEO. Volvo Car Group Deputy CEOs are entitled to a remuneration consisting of a fixed annual salary, STVP, LTVP, PSP and other benefits such as a company car and insurance. The Deputy CEOs are covered by the ITP plan and a supplementary pension plan - Volvo Management Pension (VMP). On average, the contributions for the Deputy CEOs is 28–30 per cent of the pensionable salary. Disability benefits follow the ITP and VMP regulations.

The notice period for the Deputy CEOs is a maximum of twelve months in case of termination by either Volvo Car Group or the Deputy CEOs. Furthermore, the Deputy CEOs are, in case of termination by Volvo Car Group, entitled to severance pay based on the fixed salary, during a period of maximum twelve months.

***Remuneration to Executive Management Team***

The Board has further assigned the PC to determine the remuneration to the Executive Management Team (EMT), proposed by the CEO. Volvo Car Group members of EMT are entitled to a remuneration consisting of a fixed annual salary, STVP, LTVP, PSP and other benefits such as company car and insurance.

The notice period for a member of EMT is a maximum of twelve months in case of termination by either Volvo Car Group or the member of EMT. Furthermore the member of EMT is, in case of termination by Volvo Car Group, entitled to severance pay based on the fixed salary, during a period of maximum twelve months.

| | 2022 | | | | 2021 | | | |
|---|---|---|---|---|---|---|---|---|
| **Expensed compensation to Executive Management Team (EMT), TSEK** | Salary[1] | Variable pay[2] | Long-term variable pay | Social security expenses (of which pension expenses) | Salary[1] | Variable pay[2] | Long-term variable pay | Social security expenses (of which pension expenses) |
| Jim Rowan, CEO | 12,188 | 22,482 | 1,551 | 18,612 (4,579) | — | — | — | — |
| Håkan Samuelsson, former CEO[3] | 13,143 | 18,509 | — | 12,094 (8,863) | 14,328 | 30,923 | 7,149 | 14,211 (8,861) |
| Björn Annwall, Deputy CEO[4] | 3,601 | 1,691 | 697 | 3,393 (1,068) | — | — | — | — |
| Javier Varela, Deputy CEO[4] | 4,880 | 2,294 | 1,016 | 4,661 (1,473) | — | — | — | — |
| Other members of EMT | 39,314 | 21,036 | 8,801 | 40,086 (19,800) | 66,753 | 51,120 | 14,664 | 88,516 (42,350) |
| **Total** | **73,126** | **66,012** | **12,065** | **78,846 (35,783)** | **81,081** | **82,043** | **21,813** | **102,727 (51,211)** |

1) Includes benefits such as insurance and company car.
2) Includes STVP and also other additional short term variable pay in accordance with individual agreements. The amount for 2021 also includes the one-off payments received as an observance of the EMTs hard work to achieve the listing of Volvo Car AB (publ.).
3) Remuneration in accordance with fixed term agreement.
4) Deputy CEOs from 1 July 2022.

During 2022, 6 (1) members of EMT left their positions. For EMT members leaving Volvo Car Group, remuneration during the notice period and severance pay amounted to SEK — (14) m, excluding social expenses.

Members of EMT employed in Sweden are covered by the ITP plan and, where applicable, the VMP. On average, the contributions for members of EMT is 28–35 per cent of the pensionable salary. Disability benefits follow the ITP and VMP regulations.

For members of EMT employed outside of Sweden, varying pension terms and conditions apply, depending upon the country of employment.

Volvo Car Group's outstanding post-employment benefits obligations to former CEO's and EMT amounted to SEK 44 (47) m.

***Other long-term benefits***

Apart from the compensation accounted for under Incentive programmes, EMT does not have any other long-term benefits.

**Incentive programmes**

***Short-term incentive programmes***

*Volvo Bonus*

The Volvo Bonus programme includes all Volvo Car employees, except those who participates in the STVP for Senior Leaders. The purpose of the Volvo Bonus is to strengthen global alignment among employees around Volvo Car Group's vision, objectives and strategies and to encourage all employees to achieve and exceed the business plan targets. The qualifier for the Volvo Bonus is that the Volvo Car Group profit target (EBIT) is reached. In order for the Volvo Bonus to be paid out at all, a minimum acceptable performance regarding EBIT needs to be met. This is called the threshold level and the remaining two levels (target and maximum) increase the bonus paid out in relation to increased performance. The pay-out is capped at 200 per cent of the so-called target bonus. Depending on the employee's position, the employee is eligible for a certain target level that can be either a fixed amount or a percentage of the employee´s annual base salary. To be eligible for pay-out, the employee must remain within Volvo Car Group at the pay-out date. The remuneration is paid in cash.

*STVP for Senior Leaders*

The STVP for Senior Leaders is an incentive programme for the CEO, EMT and certain senior executives. The purpose of the STVP for Senior Leaders is to support the corporate strategy and the transformation of Volvo Cars. To reach maximum pay-out a number of performance targets must be reached. Targets include Volvo Car Group profit target (EBIT), but also other targets related to quality and transformation activities. A threshold, target and maximum level is set for each performance indicator. In order for any STVP to be paid out in respect of each performance indicator, the threshold level needs to be met. If the higher target or maximum level is reached, the pay-out related to the relevant performance indicator will increase with linear pay-outs for performance between levels. The amount subject to payment for each level of performance is a percentage of the employee's annual base salary, with a cap on the maximum amount payable when reaching or exceeding the maximum level of all performance indicators. The pay-out is capped at 200 per cent of the so-called target award. The target award is a percentage of the employee's annual base salary on 31 December at the end of each performance year. To be eligible for pay-out, the employee must remain within Volvo Car Group on the pay-out date. The remuneration is paid in cash.

*Liability and cost*

The cost for the Volvo Bonus and STVP programmes amounted to SEK 1,223 (2,426) m including social security expenses, of which SEK 44 (58) m was related to EMT.

*Other short term incentives*

In observance of the Executive Managements hard work to achieve a listing of the Company's shares on Nasdaq Stockholm in 2021, the People and Sustainability Committee (renamed to People Committee in 2022) resolved on a cash one-off payment to the Executive Management. The management one-off payment (gross) corresponded to between 50–100 per cent of the annual base salary for the respective senior executive (100 per cent for the CEO). A condition for receiving the one-off payment was that the cash amount, net after deduction of preliminary tax, was reinvested by acquiring common shares of class B in Volvo Car AB (publ.), if possible. This in order to keep the Executive´s strong engagement in Volvo Car Group, and to further align the executives and the Groups interests in accordance with the share ownership policy for members of the EMT. However, those Executive Management members resident in a jurisdiction where it was practically not possible to acquire shares in Volvo Car AB (publ.) received the one-off payment without requirement to acquire shares.

***Long-term incentive programmes***

*LTVP*

The purpose of the LTVP-programme is to (i) strengthen the alignment of key people around Volvo Car Group's vision, objectives, strategies and business plan, (ii) improve Volvo Car Group's ability to attract and retain key people with key competencies, and (iii) reward potential future contribution in relation to increased shareholder value. The pay-out for the LTVP-programmes depends on the development of the market value of Volvo Car Group as well as satisfaction of certain financial performance factors related to profit (EBIT) and revenue growth measured over the term of the programme, as established by the Board of Directors. A threshold and a maximum level is set for each performance factor. In order for any LTVP to be paid out in respect of each performance factor, the threshold level needs to be met. If the higher maximum level is reached , the pay-out related to the relevant performance condition will increase with linear pay-outs for performance between the levels.

Depending on the participant's position they receive a LTVP bonus award equivalent to a certain percentage of their annual base salary. Each LTVP award has a vesting period of three years and is paid out in cash. The cash amount paid depends on the valuation of Volvo Cars on the vesting date, three years after grant and the achievement of financial performance factors.

The programmes are capped to a maximum of 300 per cent of the value of the award at grant. To be eligible for pay-out, the employee must remain within Volvo Car Group (and not be under notice of termination) on the pay-out date.

There will be no new LTVP since it has been replaced by the PSP.

*Liability and cost*

The cost for the LTVP-programme amounted to SEK 87 (70) m including social security expenses, of which SEK 18 (28) m was related to EMT. The total liability amounted to SEK 115 (136) m.

***Share-based incentive programmes***

*Performance Share Plan (PSP)*

At the Annual General Meeting 2022, the shareholders adopted the PSP, with a purpose to create a long-term focus amongst the participants on reaching Volvo Car Group´s long-term ambitions, as well as to facilitate recruitment and retention of employees with key competencies. Each PSP participant will at commencement of the program, free of charge receive a conditional award of Performance Shares (a "PSP Award"). The PSP award will amount to the number of Performance Shares the value of which corresponds to a percentage (ranged between 30–50 per cent) of each participants gross annual fixed salary. The share price used to calculate the PSP Award value was the volume-weighted average price paid for the Volvo Car AB (publ.) class B share during a period of 30 trading days in connection with the commencement of the vesting period.

The number of Performance Shares allocated to the participants after expiration of the three year vesting period may amount to between 0 and 200 per cent of the PSP award, depending on the satisfaction of four performance conditions;

- average operating margin during financial years 2022–2024 (weight 40 per cent)
- average revenue growth during financial years 2022–2024 (weight 40 per cent)
- reduction of $CO_2$ emissions per car sold (average $CO_2$ emissions per car sold in 2018 compared to the average $CO_2$ emissions per car sold in 2024) (weight 10 per cent)
- gender diversity (portion of non-male participants) in the STVP program as of 31 December 2024 (weight 10 per cent)

The performance conditions include a minimum level which must be exceeded in order for any Performance Shares to be allocated at all. Should the minimum level be exceeded but the maximum level not reached, a proportionate number of Performance Shares will be allocated.

The PSP program shall comprise a maximum of 9,886,909 class B shares in Volvo Car AB (publ.).

Allocation of Performance Shares is also conditional upon the participants retaining the employment within the Volvo Car Group over the entire vesting period.

The total value of the Performance Shares at the end of the Vesting Period may not exceed 400 per cent of the PSP Award value and the number of Performance Shares allotted may be reduced accordingly. Should there be a decline in the price of the Volvo Car AB (publ.) class B share such that the number of Performance Shares subject to allocation exceeds the maximum number of Performance Shares, the number of Performance Shares allocated to the participants will be reduced proportionately.

The Board of Directors is entitled to reduce the number of Performance Shares subject to allocation or, wholly or partially, terminate the PSP programme in advance if significant changes in the Group or in the market occur which, in the opinion of the Board of Directors, would result in a situation where the conditions for allocation of Performance Shares become unreasonable.

The fair value of the Volvo Car AB (publ.) class B share at grant date is calculated as the market value of the share excluding the present value of expected dividend payments for the next three years and amounted to SEK 75.26.

*Liability and cost*

The total cost for the PSP programme amounted to SEK 24 (—) m of which SEK 18 (—) m is equity-settled and SEK 6 (—) m is cash-settled. SEK 4( —) m is related to social security expenses. Of the total expenses SEK 5 (—) m is related to the CEO and SEK 6 (—) m to other members of EMT. The total liability amounted to SEK 6 (—) m.

*Employee Share Matching Plan (ESMP)*

The purpose of the ESMP is to create engagement, commitment and motivation for the entire permanent workforce of Volvo Car Group, excluding the members of PSP. To participate in the program, the participants must make own investments in class B shares in Volvo Car AB (publ.) (Investment shares), up to an aggregate value for each participant at the time of the investment of no more than SEK 10 000.

For each Investment share, the participants will be entitled to allocation of one Matching Share free of charge after the expiration of the two-year vesting period.

Allocation of Matching Shares is conditional upon the participant retaining the employment within the Volvo Car Group over the entire vesting period and that the participant has retained the investment shares purchased.

The ESMP shall comprise a maximum of 7,832,000 class B shares in Volvo Car AB (publ.). Should there be a decline in the price of the Volvo Car AB (publ.) class B share such that the number of Matching Shares subject to allocation exceeds the maximum number of Matching Shares, the number of Matching Shares allocated to the participants will be reduced proportionately.

The Board of Directors is entitled to reduce the number of Matching Shares subject to allocation or, wholly or partially, terminate the ESMP programme in advance if significant changes in the Group or in the market occur which, in the opinion of the Board of Directors, would result in a situation where the conditions for allocation of Matching Shares become unreasonable.

The fair value of the Volvo Car AB (publ.) class B share at grant date is calculated as the market value of the share excluding the present value of expected dividend payments for the next two years and amounted to SEK 44.34 and SEK 50.71, dependent on the date the Matching Share was granted.

When the employee receives the Matching Shares, it is normally seen as a taxable benefit. Volvo Cars has therefore decided to contribute with an additional cash sum corresponding to a general tax level for each country. The contribution is calculated on a general level and is not individually set.

Since this part of the programme meets the description of a cash-settled share-based payment transaction, a liability will be recorded and remeasured to fair value at the end of each reporting period.

*Liability and cost*

The total cost for the ESMP programme amounted to SEK 23 (—) m of which SEK 7 (—) m is equity-settled and SEK 16 (—) m is cash-settled. SEK 7 (—) m is related to social security expenses. The total liability amounted to SEK 16 (—) m.

*Polestar programme*

During 2019, Volvo Car AB (publ.), through its subsidiary Volvo Car Corporation launched a share-based incentive programme to certain members of the executive management of Volvo Car Group, Polestar Group and Polestar Board. Each participant was offered to purchase shares in Volvo Car Group´s subsidiary PSINV AB, which in turn owned shares in Volvo Car Group´s joint venture Polestar Automotive Holding Ltd and hence the participants were indirectly minority owners of the Polestar Group. The investment was made at fair market value in accordance with an external valuation. In case a partici-

| | PSP 2022 | of which CEO | of which deputy CEO J.V | of which deputy CEO B.A | of which other members of EMT | ESMP 2022 |
|---|---|---|---|---|---|---|
| Outstanding number of shares at the beginning of the year | — | — | — | — | — | — |
| Granted shares during the year | 1,337,549 | 145,958 | 49,301 | 30,100 | 62,369 | 1,636,146 |
| Forfeited during the year | –5,532 | — | — | — | — | –3,544 |
| **Outstanding number of shares at the end of the year** | **1,332,017** | **145,958** | **49,301** | **30,100** | **62,369** | **1,632,602** |

pant was no longer employed, and during other specified certain predetermined periods, the participants (i.e the shareholders) had an option to sell the shares at fair market value to Volvo Cars and at the same time Volvo Cars had an option to repurchase the shares from the participants. At the time of the initial transaction, the fair value of each share was determined to SEK 1,000. At the closing of the programme, 38,125 shares had been acquired by the participants, which corresponds to an indirect ownership in the Polestar Group of 0.16 per cent.

In June 2022 the Polestar Group was listed on the Nasdaq Stock Exchange in a de-SPAC process through a merger with the SPAC company Gores Guggenheim. In accordance with the terms of the investment programme, Volvo Car Corporation was then obliged to repurchase the participants shares in PSINV AB. Each participant was then obliged to reinvest the net proceeds received (repurchase amount less an amount corresponding to the effective tax rate on capital gains in the participants jurisdiction) in shares in Polestar Automotive Holding UK PLC directly on the open market. The purchased shares were subject to a 180 days' lock-up period.

| TSEK | Number of shares | Assessed fair market value |
|---|---|---|
| At the beginning of the year | 38,125 | 260,970 |
| Change in valuation | — | 62,749 |
| Repurchased during the year | –38,125 | –323,719 |
| **At the end of the year** | **—** | **—** |

As the accounting was made at fair value, there was no difference between book value and fair value. The fair value was based on a valuation by an external party.

| Specification of repurchased shares | Number of shares |
|---|---|
| Former CEO | 12,500 |
| Current and former members of EMT in Volvo Car Group | 8,375 |
| Members of Polestar Board and management | 17,250 |
| **Total** | **38,125** |

## NOTE 9 – DEPRECIATION AND AMORTISATION

### ACCOUNTING POLICIES

*Amortisation methods for intangible assets*

Intangible assets with finite useful lives are amortised on a straight-line basis over their respective expected useful lives. The amortisation period for contractual rights such as licences does not exceed the contract period. All intangible assets are considered to have a finite useful life, with the exception of goodwill and trademarks. Trademarks are assumed to have indefinite useful lives since Volvo Car Group has the right and the intention to continue to use the trademarks for the foreseeable future, while generating net positive cash flows for Volvo Car Group. An intangible asset with an indefinite useful life is not amortised. The following useful lives are applied to intangible assets with finite useful lives:

| | |
|---|---|
| Dealer network | 30 years |
| Software | 3–8 years |
| Product development | 3–10 years |
| Patents, licences and similar rights | 3–10 years |

Amortisation is included in cost of sales, research and development expenses as well as selling or administrative expenses depending on in what way the assets have been used.

*Depreciation methods for tangible assets*

Tangible assets are systematically depreciated over the expected useful life of the asset. Each part of a tangible assets, with a cost that is significant in relation to the total cost of the item, is depreciated separately when the useful life for the part differs from the useful life of the other parts of the item. Land is assumed to have an indefinite useful life and is not depreciated.

Vehicles sold combined with a repurchase commitment are depreciated evenly over their respective useful lives. They are depreciated from their original acquisition cost to their expected residual value, being the estimated net realisable value, at the end of the lease term. If the market value of these vehicles is lower than the originally set residual value, the depreciation is accelerated over the remaining contract period.

The following useful lives are applied in Volvo Car Group:

| | |
|---|---|
| Buildings | 14.5–50 years |
| Land improvements | 30 years |
| Machinery | 8–30 years |
| Equipment | 3–20 years |

Depreciation is included in cost of sales, research and development expenses as well as selling or administrative expenses depending on how the assets have been used.

*Impairment of assets*

The carrying amount of tangible and intangible assets with finite useful lives are tested whenever events or changes in circumstances indicate that the value of the asset will not be recovered. Intangible assets that have an indefinite useful life as well as assets that are not yet available for use are not subject for amortisation and are tested for impairment at least annually or whenever there is an indication that the value will not be recoverable. Assets may sometimes be grouped into cash-generating units for the purpose of testing impairment.

When performing an impairment test, the asset's or cash-generated unit's recoverable amount is calculated. The recoverable amount is the higher of an asset's or cash-generated unit's fair value less costs to sell and its value in use. Value in use is defined as the present value of the future cash flows expected to be derived from an asset or cash-generated unit. If the recoverable amount is lower than the carrying value, an impairment loss is recognised. Previously recognised impairment losses are reversed, with the exception of goodwill, if reasons for the previously made impairment no longer exist. An impairment loss is reversed only to the extent that the asset's or cash-generated unit's carrying amount after reversal does not exceed the carrying amount, net of amortisation, which would have been recognised if no impairment loss had been recognised.

### CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

The useful life of an intangible asset is to a large extent based on historical experience, expected application as well as other individual characteristics of the asset. The useful lives of the assets are regularly assessed and adjusted if necessary.

To test an asset or a cash-generating unit for impairment several estimates need to be performed, as described in this note as well as in Note 15 – Intangible assets and Note 16 – Tangible assets.

| Operating income includes depreciation and amortisation as specified below: | 2022 | 2021 |
|---|---|---|
| Software | –469 | –367 |
| Product development | –4,579 | –4,607 |
| Other intangible assets | –786 | –792 |
| Buildings and land improvements | –1,084 | –893 |
| Machinery and equipment | –6,860 | –6,397 |
| Right of use asset[1] | –1,580 | –1,387 |
| Assets under operating leases | –733 | –562 |
| **Total** | **–16,091** | **–15,005** |

| Depreciation and amortisation according to plan by function: | 2022 | 2021 |
|---|---|---|
| Cost of sales | –8,349 | –7,492 |
| Research and development expenses | –5,722 | –5,238 |
| Selling expenses | –1,028 | –778 |
| Administrative expenses | –961 | –1,109 |
| Other income and expense | –31 | –388 |
| **Total** | **–16,091** | **–15,005** |

1) Depreciation of Right of use assets amounted to SEK –1,580 (–1,387) m, whereof SEK –1,401 (–1,165) m is related to Buildings and land, and SEK –179 (–222) m is related to Machinery and equipment.

## NOTE 10 – GOVERNMENT GRANTS

### ACCOUNTING POLICIES

Government grants are recognised in the financial statements in accordance with their purpose, either as a reduction of expense or as a reduction of the carrying amount of the asset. Government grants recognised for as a cost reduction, are recognised in the same periods as the expenses for which the grant was intended to compensate for has occurred. Government grants related to acquiring assets are deducted from the carrying amount of the asset and are recognised in the income statement over the life of a depreciable asset as a reduced depreciation expense. In cases where the received government grant is not intended to compensate for any expenses or the acquisition of assets, the grant is classified by the nature of the income, either as other income or revenue. Government grants for future expenses are recognised as deferred income.

### CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

A government grant is recognised when there is reasonable assurance that Volvo Car Group will comply with the conditions attached to the grant and that the grant will be received. Judgement includes assessing if Volvo Car Group is in compliance with the prerequisites in the contract or not and if there is a potential risk of repayment if these prerequisites are breached during the contract period. As of today, Volvo Car Group's assessment is that there are no government grants received where there is a risk of material repayments, however a previously recognised grant that has not been paid out has been reversed as further described below.

Volvo Car Group receives grants from several parties, mainly from the Swedish, American, Chinese and Belgian Governments as well as from the European Union. In 2022 the government grants received amounted to SEK 409 (472) m and the government grants realised in the income statement amounted to SEK 868 (355) m. Grants relating to earned emission credits amounted to SEK 505 (—) m. Non-monetary government grants have been received in China, mainly in the form of rent-free office and factory premises, and in the US in the form of reduced lease fees related to office premises and the manufacturing site.

*Correction of prior period error*

A prior period error was identified with regards to the recognition of a government grant in China. Since the error occurred before 2021, the correction effects the opening balances of 2021. The below tables show the amounts of the correction for each financial statement line item affected for each prior period presented. Basic earnings and diluted earnings per share for 2020 has been recalculated to SEK 2.19 and SEK 2.19 due to the correction of error, previously reported as SEK 2.28 and SEK 2.28 respectively. There is no material impact on the Group's financial statements for the year ended 31 December 2021. The adjustments for 2020 presented below do however impact the outgoing balances of 2021 presented in the Consolidated Balance Sheets.

| Consolidated Balance Sheets<br>31 December 2020 | Previously reported | Adjust-ments[1] | Restated |
|---|---|---|---|
| Tangible assets[2] | 61,943 | 512 | 62,455 |
| **Total non-current assets** | **123,479** | **512** | **123,991** |
| Other current assets[3] | 9,412 | –978 | 8,434 |
| **Total current assets** | **138,833** | **–978** | **137,855** |
| **Total assets** | **262,312** | **–466** | **261,846** |
| Equity attributable to owners of the parent company | 59,412 | –233 | 59,179 |
| Non-controlling interests | 11,006 | –233 | 10,773 |
| **Total equity** | **70,418** | **–466** | **69,952** |
| **Total equity and liabilities** | **262,312** | **–466** | **261,846** |

| Consolidated Income Statements<br>31 December 2020 | Previously reported | Adjust-ments | Restated |
|---|---|---|---|
| Cost of sales | –216,813 | –67 | –216,880 |
| Gross income | 46,020 | –67 | 45,953 |
| Selling expenses | –15,710 | –387 | –16,097 |
| Administrative expenses | –8,539 | –26 | –8,565 |
| **Operating income** | **8,516** | **–480** | **8,036** |
| **Income before tax** | **9,546** | **–480** | **9,066** |
| **Net income** | **7,788** | **–480** | **7,308** |
| Attributable to owners of the parent company | 5,834 | –240 | 5,594 |
| Non-controlling interests | 1,954 | –240 | 1,714 |

1) Difference between the total adjustment of SEK 480 m affecting Net income and the total adjustment of SEK 466 m affecting Total equity is a foreign exchange rate effect.
2) From 2021, Assets held under operating leases are reported as a part of Tangible assets (previously called Property, plant and equipment).
3) In annual report 2020, total amount of SEK 10,130 m was recognised as Other current assets, including Current derivative assets.

## NOTE 11 – OTHER FINANCIAL INCOME AND EXPENSES

### ACCOUNTING POLICIES

Financial income consist of interest income on interest-bearing assets in accordance to the effective interest method, fair value changes on equity holdings and fair value changes on financial derivatives and received dividends. Information with regards to the classification of financial instruments, see Note 20– Financial instruments and Financial risks.

Financial expenses mainly consist of interest expenses and changes related to measurement to fair value on equity holdings and financial derivatives. Information of the classification of financial instruments, see Note 20 – Financial instruments and Financial risks.

In 2022, Volvo Cars has changed the presentation of Financial income and Financial expenses in the Consolidated Income Statements. Financial income and Financial expenses are presented as Interest income and similar credits, Interest expenses and similar charges and Other financial income and expenses. Presented in the previous manner, Financial income and Financial expenses in 2022 would amount to SEK 918 m and SEK –2 435 m respectively.

| | 2022 | 2021 |
|---|---|---|
| Net foreign exchange rate gain/loss on financing activities | 88 | 224 |
| Fair value through profit and loss[1] | –1,205 | –823 |
| Expenses for credit facilities | –58 | –126 |
| Interest effect from the measurement of repurchase obligations | –235 | –158 |
| Other financial income | 2 | 166 |
| Other financial expenses | –124 | –341 |
| **Total** | **–1,532** | **–1,058** |

1) Mainly fair value changes related to shares, warrants and earn-out shares in Luminar.

## NOTE 12 – INVESTMENTS IN JOINT VENTURES AND ASSOCIATES

### ACCOUNTING POLICIES

Joint ventures refer to joint arrangements whereby Volvo Car Group together with one or more parties have joint control and rights to the net assets of the arrangements.

Associated companies are companies in which Volvo Car Group has a significant but not controlling influence, which generally is when Volvo Car Group holds between 20 and 50 per cent of the shares, but it also includes investments with less participation if significant influence is proven based on other facts and circumstances.

Investments in joint ventures and associated companies are recognised in accordance with the equity method and are initially valued at acquisition cost. Volvo Car Group's share of post-acquisition profit or loss is recognised in the income statement, and its share of post-acquisition movements in other comprehensive income is recognised in other comprehensive income, with a corresponding adjustment to the carrying amount of the investment. When Volvo Car Group's share of losses in an associate or joint venture equals or exceeds its interest in the associate or joint venture, Volvo Cars does not recognise further losses unless it has a legal or constructive obligations in relation to the associate or joint venture.

### CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

The critical judgement in terms of associates refer to situations where Volvo Car Group has got a voting power of less than 20 per cent but based on other facts and circumstances could have significant influence over a company. This could be based on the content of a shareholder agreement, evaluation of the entitys financing structure, or other market-based assumptions and other relationship-based facts. The judgement that is made is whether Volvo Car Group based on these identified facts and circumstances could conclude on having significant influence. Currently Volvo Car Group do not recognise any associate with a voting power of less than 20 per cent.

In terms of a joint venture the judgement is whether joint control really exists when other facts and circumstances are taken into consideration.

| | 2022 | 2021 |
|---|---|---|
| Share of income in joint ventures | 520 | –952 |
| Share of income in associates | 3,923 | 1 |
| **Total** | **4,443** | **–951** |

| **Share of income in joint ventures and associates is specified below:** | 2022 | 2021 |
|---|---|---|
| Lynk & Co Investment Co., Ltd | 30 | 305 |
| Polestar Automotive Holding Group | 4,151 | –2,693 |
| Volvofinans Bank AB | 431 | 269 |
| Zenuity AB | — | 1,175 |
| Other companies | –169 | –7 |
| **Total** | **4,443** | **–951** |

| **Investments in joint ventures and associates** | 31 Dec 2022 | 31 Dec 2021 |
|---|---|---|
| At beginning of the year/acquired acquisition value | 6,931 | 9,997 |
| Share of net income | 4,443 | –951 |
| Investment in NOVO Energy AB | 163 | — |
| Investment in Zenuity AB | 3 | — |
| Investment in Volvo Car Financial Services UK Ltd | 185 | — |
| Investment in Polestar Automotive Holding Ltd | — | 2,068 |
| Investment in Polestar Automotive Holding UK PLC | 6,101 | — |
| Investment in Zhejiang Aurobay Powertrain Co., Ltd | 1,696 | — |
| Divestment of shares in Zhejiang Aurobay Powertrain Co., Ltd | –1,528 | — |
| Reversal internal profit elimination | –335 | –310 |
| Reclassification from joint venture to subsidiary | — | –1,882 |
| Reclassification from joint venture to other long-term securities holdings | –7,998 | — |
| Revaluation of earn-out rights in Polestar Automotive UK PLC | 5,146 | — |
| Capital repayment V2 Plug-In Hybrid Vehicle Partnership HB | — | –132 |
| Dividends | –72 | –1,991 |
| Translation difference | 864 | 132 |
| **Total** | **15,599** | **6,931** |

CONSOLIDATED FINANCIAL STATEMENTS

| Volvo Car Group's carrying amount on investments in joint ventures and associates: | Corp. ID no. | Country of incorporation | % interest held | 31 Dec 2022 | 31 Dec 2021 |
|---|---|---|---|---|---|
| *Joint ventures* | | | | | |
| NOVO Energy AB | 559344-2600 | Sweden | 50 | 131 | — |
| Volvo Trademark Holding AB | 556567-0428 | Sweden | 50 | 10 | 6 |
| Volvofinans Bank AB | 556069-0967 | Sweden | 50 | 3,176 | 2,811 |
| VH Systems AB | 556820-9455 | Sweden | 50 | 38 | 37 |
| Zenuity AB | 559073-6871 | Sweden | 50 | — | — |
| World of Volvo AB | 559233-9849 | Sweden | 50 | 105 | 114 |
| VCFS Germany GmbH | HRB 85091 | Germany | 50 | 3 | 2 |
| VCIS Germany GmbH | HRB 86800 | Germany | 50 | 8 | 6 |
| Volvo Car Financial Services UK Ltd | 12718441 | United Kingdom | 50 | 642 | 370 |
| Polestar Automotive Holding Ltd | 2942747 | Hong Kong, China | 50 | — | 106 |
| GV Automobile Technology (Ningbo) Co., Ltd | 91330201MA2AGKLQ8E | China | 50 | 39 | 36 |
| Lynk & Co Investment Co., Ltd | 91330200MA2AF25Y7B | China | 30 | 3,643 | 3,418 |
| *Associated companies* | | | | | |
| VCC Tjänstebilar KB | 969673-1950 | Sweden | 50 | 5 | 3 |
| VCC Försäljnings KB | 969712-0153 | Sweden | 50 | 1 | 1 |
| Volvohandelns PV Försäljnings KB | 916839-7009 | Sweden | 50 | 2 | 2 |
| Volvohandelns PV Försäljnings AB | 556430-4748 | Sweden | 50 | 13 | 12 |
| Polestar Automotive Holding UK PLC | 13624182 | United Kingdom | 48 | 7,775 | — |
| Zhejiang Aurobay Powertrain Co., Ltd | 91330200MA2KP5DK52 | China | 33 | — | — |
| Trio Bilservice AB | 556199-1059 | Sweden | 33 | 1 | 1 |
| Göteborgs Tekniska College AB | 556570-6768 | Sweden | 26 | 6 | 5 |
| Leiebilservice AS | 879 548 632 | Norway | 20 | 1 | 1 |
| **Carrying amount, participation in joint ventures and associates** | | | | **15,599** | **6,931** |

The share of voting power corresponds to holdings in per cent as per above. For practical reasons, some of the joint ventures and associates are included in the consolidated financial statements with a certain time lag, normally one month.

### Lynk & Co Investment Co., Ltd

The joint venture company Lynk & Co Investment Co., Ltd is an establishment between Volvo Cars (China) Investment Co., Ltd, (30 per cent), Zhejiang Jirun Automobile Co., Ltd (50 per cent) and Zhejiang Haoqing Automobile Manufacturing Co., Ltd (20 per cent ). The principal activity of the Lynk & Co Investment Co., Ltd is to engage in the manufacturing and sale of vehicles under the "Lynk & Co" brand, and support after-sale services relating thereto.

### Polestar Automotive Holding Group

In 2020, the joint venture company Polestar Automotive Holding Ltd was established between Volvo Car Group's wholly-owned subsidary Snita Holding B.V. 50 per cent shareholding and PSD Investment Ltd. In November 2020, Snita Holding B.V. sold 0.86 per cent of its shares in Polestar Automotive Holding Ltd to PSINV AB, another subsidiary within Volvo Car Group.

In March 2021, Polestar Automotive Holding Group raised external capital from long-term financial investors. The private placement was conducted through newly issued shares and diluted Volvo Cars ownership in Polestar. The valuation effects in connection with the transaction amounted to SEK 2,039 m and were recognised as income from shares in joint ventures and associates. In July 2021, PSD Investment Ltd sold 7.3 per cent of its shares to Volvo Cars, which increased Volvo Cars share in Polestar from 46.1 per cent to 49.5 per cent following an investment of SEK 2,068 m.

In June 2022, Polestar's wholly-owned subsidiary Polestar Automotive Holding UK PLC was listed on the Nasdaq Stock Exchange in New York in a de-SPAC process through a merger with the SPAC company Gores Guggenheim and Polestar Automotive Holding UK PLC became the new parent company of the Polestar Group. The transaction broadened Polestar's ownership base and in total raised approximately USD 890 m in external capital, of which Volvo Cars invested USD 11 m (SEK 113 m).

The listing transactions had several financial effects for Volvo Cars. In connection with the listing, Volvo Cars ownership was diluted due to external funds raised by Polestar in the listing process. The dilution effect amounted to SEK 4,023 m and were recognised as income in shares in joint ventures and associates.

As part of the listing process, Polestar also issued earn-out rights to its shareholders. The value of Volvo Car Group's portion of the earn-out rights, which have been calculated in accordance with a Monte Carlo simulation methodology, has been accounted for as a deemed dividend from Polestar, increasing financial assets, and decreasing the carrying amount of the shares in Polestar. As of 31 December, these earn-out rights have been revalued to market value. The part of the earn-out rights value exceeding the carrying amount of Polestar is accounted for in the income statement as share of income in joint ventures and associates. The earn-out rights can be converted to common shares in Polestar Automotive Holding UK PLC after a minimum of 180 days after the listing process. The conversion is subject to the Polestar share price at Nasdaq stock exchange. There are five thresholds where the earn-outs will be converted at a price of USD 13, USD 15.50, USD 18, USD 20.50 and USD 23, respectively, with 20 per cent of the earn-out rights being converted at each threshold.

Directly after the listing, Volvo Cars invested in convertible preference shares issued by Polestar for a total value of SEK 5,988 m (USD 589 m). The convertible preference shares have been converted into common shares in Polestar Automotive Holding UK PLC.

Polestar is after the listing transactions accounted for as an associate instead of a joint venture.

In October 2022, the former parent company, Polestar Automotive Holding Ltd entered into liquadation. In November 2022, PSINV AB sold all of its shares in Polestar Holding Automotive Ltd to Snita Holding B.V. In December 2022, Polestar Automotive Holding Ltd made an interim distribution of its shareholding in Polestar Automotive Holding UK PLC to its shareholders and also sold redeemable preference shares in Polestar Automotive Holding UK PLC to Snita Holding B.V. Thereafter Snita Holding B.V. sold its entire shareholding in Polestar Automotive Holding Ltd to PSD Investment Ltd.

At year end 2022, Volvo Car Group, through its subsidiary Snita Holding B.V., have shareholding of 48.3 per cent in Polestar Automotive Holding UK PLC, and is together with the other main owner PSD Investment Ltd, still considered to have significant influence over the Polestar Group based on, among other factors, ownership and board composition.

As of 31 December 2022, our fair value of the Polestar Group, listed on the Nasdaq Stock Exchange in New York (ticker symbol: PSNY), was SEK 56,251 m based on the quoted market price.

### Volvofinans Bank AB

Volvofinans Bank AB is a joint venture between Volvo Car Corporation and AB Volverkinvest. In Sweden, Volvofinans Bank AB is the leading bank within vechicle financing services.

### Other companies

In 2021, the company Zhejiang Aurobay Powertrain Co., Ltd. (Aurobay) was established as an associate between Volvo Cars (China) Investment Co., Ltd (33 per cent) and Zhejiang Geely Chantou Holding Co., Ltd (67 per cent).

In January 2022, the associated company Aurobay aquired the 50 per cent owned subsidiary Zhangjiakou Volvo Car Engine Manufacturing Co., Ltd from Volvo Cars (China) Investment Co., Ltd. For further information, see Note 31 – Business Combinations and divestments. In August 2022, Aurobay also acquired the wholly-owned subsidiary Powertrain Engineering Sweden AB and its subsidiary Powertrain Engineering Sweden Real Estate AB from Geely Sweden Holdings AB.

In December, Zhejiang Geely Chantou Holding Co., Ltd and Volvo Cars (China) Investment Co. Ltd entered into an agreement, where Zhejiang Geely Chantou Holding Co., Ltd acquired the remaining 33 per cent of Zhejiang Aurobay Powertrain Co., Ltd. (Aurobay) from Volvo Cars (China) Investment Co., Ltd. The consideration amounted to SEK 1,528 m.

In January 2022, the joint venture company NOVO Energy AB was established between Volvo Car Corporation and Northvolt AB. The purpose of the joint venture is to develop and produce more sustainable batteries to power the next generation of pure electric Volvo and Polestar cars. For further information, see Note 4 – Related Parties.

The following tables present summarised financial information for the Volvo Car Group's material joint ventures and associates.

| | Lynk & Co Investment Group[1] | | Polestar Automotive Holding Group[2] | | Volvofinans Bank AB[3] | |
|---|---|---|---|---|---|---|
| **Summarised balance sheets** | **2022** | 2021 | **2022** | 2021 | **2022** | 2021 |
| Percentage ownership | 30 | 30 | 48 | 50 | 50 | 50 |
| | | | | | | |
| Non-current assets | 21,739 | 19,901 | 18,826 | 13,628 | 37,800 | 38,799 |
| Cash and cash equivalents | 2,858 | 2,419 | 10,095 | 6,863 | 3,530 | 2,262 |
| Other current assets | 20,135 | 13,241 | 11,904 | 8,586 | 4,649 | 3,995 |
| **Total assets** | **44,732** | **35,561** | **40,825** | **29,077** | **45,979** | **45,056** |
| | | | | | | |
| Equity[4] | 12,101 | 11,354 | –1,096 | 931 | 5,601 | 4,870 |
| Non-current financial liabilities | 1,869 | 1,390 | 890 | 604 | 36,537 | 36,623 |
| Non-current liabilities[4] | 3,913 | 4,123 | 7,354 | 720 | 1,140 | 1,038 |
| Current financial liabilities | 1,998 | 28 | 14,214 | 5,981 | — | — |
| Current liabilities | 24,851 | 18,666 | 19,463 | 20,841 | 2,701 | 2,525 |
| **Total equity and liabilities** | **44,732** | **35,561** | **40,825** | **29,077** | **45,979** | **45,056** |

| Summarised income statements | Lynk & Co Investment Group[1] | | Polestar Automotive Holding Group[2] | | Volvofinans Bank AB[3] | |
|---|---|---|---|---|---|---|
| | **2022** | 2021 | **2022** | 2021 | **2022** | 2021 |
| Revenue | 37,966 | 40,036 | 24,723 | 11,721 | 5,340 | 5,164 |
| Depreciation and amortisation | –4,177 | –3,087 | –1,452 | –2,039 | –10 | –9 |
| Interest income | 68 | 60 | 50 | 12 | — | — |
| Interest expense | –117 | –90 | –735 | –382 | — | — |
| Profit/loss from continuing operations | 33 | 836 | –4,416 | –8,758 | 460 | 414 |
| **Profit (loss) for the year** | **33** | **836** | **–4,416** | **–8,758** | **460** | **414** |
| **Other comprehensive income for the year** | **27** | **23** | **81** | **–302** | **—** | **—** |
| **Total comprehensive income for the year** | **60** | **859** | **–4,335** | **–9,060** | **460** | **414** |
| Dividends received from joint ventures and associates during the year | — | 703 | — | — | 65 | 107 |

Reconciliation of the summarised financial information presented to the carrying amount of its interest in joint ventures and associates.

| Reconciliation of summarised financial information | Lynk & Co Investment Group[1] | | Polestar Automotive Holding Group[2] | | Volvofinans Bank AB[3] | |
|---|---|---|---|---|---|---|
| | **2022** | 2021 | **2022** | 2021 | **2022** | 2021 |
| Net asset of the joint venture and associate | 12,101 | 11,354 | –1,096 | 931 | 5,601 | 4,870 |
| Proportion of Volvo Car Group's ownership | 30% | 30% | 48% | 50% | 50% | 50% |
| Goodwill | — | — | — | — | 376 | 376 |
| Adjustments for common control transaction | 11 | 11 | 20 | 17 | — | — |
| Polestar listing | — | — | 8,970 | — | — | — |
| Revaluation of earn-outs rights | — | — | –173 | — | — | — |
| Equity-settled share-based payments | — | — | –41 | — | — | — |
| Capital injection from investors other than Volvo Car Group | — | — | –764 | –145 | — | — |
| Net foreign exchange rate effect | 2 | 1 | 292 | –226 | — | — |
| **Carrying amount of Volvo Car Group's interest in joint ventures and associates** | **3,643** | **3,418** | **7,775** | **106** | **3,176** | **2,811** |

1) Volvo Car Group's equity share in Lynk & Co Investment Group is included with a time lag of a month, and a forecast for December.
2) Volvo Car Group's equity share in Polestar Automotive Holding is included with a time lag of a quarter and a forecast for the last quarter.
3) Volvo Car Group's equity share in Volvofinans Bank AB is included with a time lag of a quarter.
4) Equity and non-current liabilities are adjusted with the portion of untaxed reserves where appropriate.

### Significant restrictions

For the Chinese joint venture companies, there are some restrictions on the Volvo Car Group's ability to access cash.

## NOTE 13 – TAXES

### ACCOUNTING POLICIES

***Income taxes***

Volvo Car Group's tax expense consists of current tax including withholding tax on licence sales to China and deferred tax. Taxes are recognised in the income statement except when the underlying transaction is recognised directly in equity or other comprehensive income, whereupon related taxation is also recognised in equity or other comprehensive income.

Current tax is tax that must be paid or will be received for the current year. Current tax also includes adjustments to current tax attributable to previous periods. Deferred tax is calculated according to the balance sheet method for all temporary differences, with the exception of goodwill, that arise between the tax value and the carrying amount of assets and liabilities.

Deferred tax assets and liabilities are measured at the nominal amount and at the tax rates that are expected to be applied when the asset is realised or the liability is settled, using the tax rates and tax rules that have been enacted or substantively enacted at the balance sheet date.

Deferred tax assets relating to deductible temporary differences and loss carry-forwards are recognised to the extent it is probable that they will be utilised in the future. Deferred tax assets and deferred tax liabilities are offset when they are attributable to the same taxation authority on either the same taxable entity or different taxable entities where there is an intention to settle the balances on a net basis and the affected company has a legally adopted right to offset tax assets against tax liabilities.

Tax laws in Sweden and in certain other countries allow companies to defer tax payments through allocation to untaxed reserves. These items are treated as temporary differences in the consolidated balance sheet where the untaxed reserves are divided between deferred tax liability and equity. In the consolidated income statement an allocation to, or withdrawal from, untaxed reserves is divided between deferred taxes and net income for the year.

### CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

***Deferred tax assets***

The recognition of deferred tax assets requires assumptions to be made with regard to the level of future taxable income and the timing of recovery of deferred tax assets. These assumptions take into consideration forecasted taxable income. The measurement of deferred tax assets is subject to uncertainty and the actual result may diverge from judgements due to future changes in business climate, altered tax laws etc. An assessment is made at each closing date of the likelihood that the deferred tax asset will be utilised. If needed the carrying amount of the deferred tax asset will be altered. The judgements that have been made may affect net income both positively and negatively.

| Income tax recognised in income statement | 2022 | 2021 |
|---|---|---|
| Current income tax for the year | –3,277 | –2,873 |
| Current income tax for previous years | 179 | –620 |
| Deferred taxes | –282 | –1,445 |
| Withholding taxes[1] | –561 | –96 |
| Other taxes | 129 | 451 |
| **Total** | **–3,812** | **–4,583** |

1) Withholding tax on royalty and licence sales, mainly to China.

| Reconciliation between current tax rate in Sweden and effective tax rate | 2022 | 2021 |
|---|---|---|
| Income before tax for the year | 20,815 | 18,760 |
| Tax according to applicable Swedish tax rate, 20.6% (20.6%) | –4,288 | –3,865 |
| Operating income/costs, non-taxable | –144 | –24 |
| Withholding taxes | –561 | –96 |
| Other taxes, non-taxable | 129 | 451 |
| Share of income in joint ventures, non-taxable | 1,043 | –402 |
| Capital gains or losses, non-taxable | –8 | –2 |
| Effect of different tax rates | –291 | –211 |
| Tax effect on deferred tax due to change of tax rate | –27 | –1 |
| Non-recognised deferred tax asset on tax losses carry forward | –42 | –258 |
| Remeasurements of previously non-recognised deferred tax on tax losses | 246 | — |
| Revaluation of previously non-valued losses and other temporary differences | 155 | –203 |
| Other | –24 | 28 |
| **Total** | **–3,812** | **–4,583** |

| Income tax recognised in other comprehensive income | 2022 | 2021 |
|---|---|---|
| **Deferred tax** | | |
| Tax effects on cash flow hedge reserve | 466 | –472 |
| Tax effect of remeasurement of provisions for post-employment benefits | 998 | 669 |
| Tax effects on translation difference of hedge instruments of net investments in foreign operations | –147 | –54 |
| **Total** | **1,317** | **143** |

| Specification of deferred tax assets | 31 Dec 2022 | 31 Dec 2021 |
|---|---|---|
| Goodwill arising from the purchase of the net assets of a business | 103 | 102 |
| Provision for employee benefits | 828 | 2,306 |
| Unutilised tax loss carry-forwards | 6,976 | 5,488 |
| Accruals | 6,260 | 4,659 |
| Reserve for unrealised income in inventory | 1,633 | 1,007 |
| Provision for warranty | 1,355 | 1,370 |
| Fair value of financial instruments | 5 | 283 |
| Other temporary differences | 1,864 | 2,288 |
| **Total deferred tax assets** | **19,024** | **17,503** |
| Netting of assets/liabilities | –9,893 | –10,136 |
| **Total deferred tax assets, net** | **9,131** | **7,367** |

| Specification of deferred tax liabilities | 31 Dec 2022 | 31 Dec 2021 |
|---|---|---|
| Fixed assets | 12,402 | 9,655 |
| Untaxed reserves | 52 | 21 |
| Auto lease portfolio | 2,650 | 2,326 |
| Other temporary differences | 181 | 474 |
| **Total deferred tax liabilities** | **15,285** | **12,476** |
| Netting of assets/liabilities | –9,893 | –10,136 |
| **Total deferred tax liabilities, net** | **5,392** | **2,340** |

Deferred tax assets and deferred tax liabilities are offset when the item relates to income taxes levied by the same taxation authority on either the same taxable entity or different taxable entities which intend either to settle current tax liabilities and assets on a net basis, or to realise the assets and settle the liabilities simultaneously. Deferred tax assets are only recognised in countries where Volvo Car

Group expects to be able to generate corresponding taxable income in the future to benefit from tax reductions.

Significant tax loss carry-forwards are related to countries with long or indefinite periods of utilisation, mainly Sweden and the US. Of the total SEK 6,976 (5,488) m recognised deferred tax assets related to tax loss carry-forwards, SEK 6,150 (4,540) m relates to Sweden with indefinite periods of utilisation. SEK 274 (667) m relates to US where tax loss carry-forwards are expected to be utilised before expiration date. The assessement is that Volvo Car Group will be able to generate sufficient income in the coming years to also utilise the remaining part of the recognised amounts.

Deferred tax that may arise on distribution of remaining unrestricted earnings of foreign subsidiaries has not been booked, hence they can be distributed free of tax or Volvo Car Group may consider them permanently reinvested in the subsidiaries.

| Changes in deferred tax assets and liabilities during the reporting period | 31 Dec 2022 | 31 Dec 2021 |
|---|---|---|
| Net book value of deferred taxes at 1 January | 5,027 | 6,120 |
| Deferred tax income/expense recognised through income statement | –282 | –1,445 |
| Change in deferred taxes recognised directly in other comprehensive income | –1,317 | –143 |
| Reclassifications[1] | — | –181 |
| Business combinations | — | 25 |
| Exchange rate impact | 311 | 651 |
| **Net book value of deferred taxes at 31 December** | **3,739** | **5,027** |

1) SEK — (–36) m of deferred tax assets and SEK — (–95) m of deferred tax liabilities have been reclassified to assets and liabilities held for sale. For more information, see Annual report 2021, Note 34 - Assets and liabilities held for sale.

Deferred tax assets regarding tax loss carry-forwards are reported to the extent that realisation of the related tax benefit through future taxable profits is probable also when considering the period during which these can be utilised, as described below.

As of 31 December 2022, the recognised tax loss carry-forwards amounted to SEK 33,188 (25,898) m. The tax value of these tax loss carry-forwards is reported as an asset. The final years in which the recognised loss carry-forwards can be utilised are shown in the following table.

| Tax-loss carry-forwards; year of expiration | 31 Dec 2022 | 31 Dec 2021 |
|---|---|---|
| **Due date** | | |
| 2023 | — | — |
| 2024 | — | — |
| 2025 | — | 8 |
| 2026 | 82 | 559 |
| 2027 | 937 | — |
| 2028– | 32,169 | 25,331 |
| **Total** | **33,188** | **25,898** |

## NOTE 14 – EARNINGS PER SHARE

### ACCOUNTING POLICIES

Basic earnings per share is calculated as net income attributable to owners of the parent company divided by the weighted average number of ordinary shares outstanding during the period, where net income is reduced by preference dividends for preference shares, which are cumulative, and required for the period whether or not the dividends have been declared. Diluted earnings per share is calculated on an "if-converted" basis in respect of the preference shares, which are convertible into ordinary shares. The preference dividends deducted in basic earnings per share are added back and the number of ordinary shares that would be attributable to the preference shares on conversion are added into the denominator. However, such adjustment is made only when it would decrease earnings per share. If it would increase earnings per share, the preference shares are considered anti-dilutive and are not included in diluted earnings per share.

Effects on EPS connected with equity-settled employee incentive plans are reflected in the diluted earnings per share calculation when they are dilutive. For the performance share programme this is based on the fulfilment of the performance conditions. For the employee share matching programme dilutive effects are calculated using the "treasury share method".

| Basic earnings per share | 2022 | 2021 |
|---|---|---|
| Net income attributable to owners of the parent company | 15,577 | 12,546 |
| Preference share returns relating to the year | — | –360 |
| **Net income attributable to owners of ordinary shares in the parent company** | **15,577** | **12,186** |
| Weighted average number of ordinary shares outstanding, basic | 2,979,524,179 | 2,579,920,697 |
| **Basic earnings per share (SEK)** | **5.23** | **4.72** |

| Diluted earnings per share[1] | 2022 | 2021 |
|---|---|---|
| Net income in basic earnings per share | 15,577 | 12,186 |
| If preference shares had been converted, no preference yield had accrued | — | 360 |
| **Net income in diluted earnings per share** | **15,577** | **12,546** |
| Weighted average number of ordinary shares outstanding, basic | 2,979,524,179 | 2,579,920,697 |
| Dilutive effect for preference shares | — | 47,449,750 |
| Dilutive effect for share-based payment programmes | 47,186 | — |
| **Weighted average number of ordinary shares, diluted** | **2,979,571,365** | **2,627,370,447** |
| **Diluted earnings per share (SEK)** | **5.23** | **4.72** |

1) Calculation of diluted earnings per share is made for the year/years for which the preference share not are considered anti-dilutive. If considered anti-dilutive, the diluted earnings per shares equals basic earnings per share. For 2021, the preference shares are considered anti-dilutive hence diluted earnings per share equals basic earnings per share.

## NOTE 15 – INTANGIBLE ASSETS

### ACCOUNTING POLICIES

An intangible asset is recognised when it is identifiable, Volvo Car Group controls the asset, it is expected and probable to generate future economic benefits and the cost can be measured reliably. Intangible assets consist of internally developed products, licences and patents, trademarks, goodwill, dealer network and investments in IT-systems and software.

Both acquired and internally generated intangible assets are recognised at acquisition cost, less accumulated amortisation and any impairment loss (with the exception of goodwill and trademark). Goodwill and trademark are recognised at fair value at the date of the acquisition less any accumulated impairment losses.

Subsequent expenditure on intangible assets increases the cost only if it gives rise to future economic benefit. All other subsequent expenditures are expensed in the period in which they are incurred.

*Product development*

Volvo Car Group's research and development activities are divided into a concept phase and a product development phase. Costs incurred during the concept phase are normally research costs for developing new products at an early stage, where the outcome of the project is still uncertain and where for example different options and alternatives are still evaluated. Research costs during the concept phase are expensed as incurred.

When a research and development project has developed to the extent that there is a definable future product that is assessed to generate future economic benefits, the project is considered to be in the development phase. Costs for development of new products, production systems and software are recognised as an asset if certain conditions are met. The cost of an internally generated intangible asset comprises of all expenditures that can be directly attributed to the development phase and that serve to create, produce and prepare the asset for use. All other development costs are expensed as incurred.

Development costs incurred by Volvo Car Group that are contractually shared with other parties and where Volvo Car Group remain in control of a share of the developed product, either through a licence or through ownership of patents, are recognised as intangible assets, reflecting the relevant proportion of Volvo Car Group interests.

Volvo Car Group incur development costs on behalf of other parties. In cases where the developed technology is sold and therefore not controlled by Volvo Car Group, the costs are expensed as cost of sales at the time of the sale. These costs are also used to measure development progress for revenue recognition for the sold technology, licences or Intellectual Property. See Note 2 – Revenue for further information.

### CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

Intangible assets with a finite useful life are amortised on a straight-line basis over their estimated useful lives. Management regularly reassesses the useful life of all significant assets. If circumstances change such that the estimated useful life has to be revised, additional amortisation could be the result in future periods.

In the assessment of useful life, climate-related risks have been considered, mainly impacting capitalised costs related to product development for internal combustion engines in line with Volvo Cars plans to be fully electric by 2030.

The carrying amount of intangible assets with finite useful lives are tested whenever events or changes in circumstances indicate that the value of the asset will not be recovered. Intangible assets with indefinite useful lives, i.e. trademarks, goodwill, and other intangible assets not yet ready for use, are not subject for amortisation and are tested for impairment at least annually or whenever there is an indication that the value will not be recoverable.

An impairment test is made by calculating the asset or assets recoverable amount. If the recoverable amount is less than the carrying value, the asset is written down to its recoverable value. The recoverable amount is the higher of an asset's or cash-generating unit's fair value less costs to sell and its value in use. Value in use is defined as the present value of the future cash flows expected to be derived from an asset or cash-generating unit. The estimated future cash flows are based on assumptions that represent management's best estimate of the economic conditions that will exist during the asset's remaining useful life and are based on internal business plans or forecasts. Future cash flows are determined on the basis of long-term planning, which is approved by Management and valid at the date of preparation of the impairment test. The planning is based on expectations regarding future market share, the market growth, Volvo Car Group's expected performance in this environment as well as the products' profitability.

Previously recognised impairment losses are reversed, with the exception of goodwill, if reasons for the previously made impairment no longer exist. An impairment loss is reversed only to the extent that the asset's or cash-generating unit's carrying amount after reversal does not exceed the carrying amount, net of amortisation, which would have been recognised if no impairment loss had been recognised.

When performing an impairment test by calculating the asset's or assets' recoverable value based on discounted cashflow, Volvo Car Group constitutes one single Cash Generating Unit. Assumption of future market share, market growth and Volvo Car Group's expected performance in this environment is the basis for the valuation.

Management's business plan for 2023–2026 is used as a basis for the calculation. In the model, Volvo Car Group is expected to maintain stable efficiency over time and the estimates for the cash flows following the end of the planning period are based on the same growth rate and cash flow as for the last year in the calculation onwards in perpetuity. The business plan is an integral part of Volvo Car Group's financial planning process and represents management's best estimate of the economic conditions that will exist during the asset's remaining lifetime. The business plan process is based on the historic and current financial performance and financial position of the company, i.e., assumptions for margin development, fixed cost and new investments are based on current year financials and balanced towards what is containable given the projection of exogenous factors. Exogenous factors as industry and segment volumes, exchange rates, raw material etc. are based on external assessments from analyst companies and banks. In 2022, the discounted cash flow exceeded the carrying amount and no impairment loss was recognised. A sensitivity test has been performed whether a negative adjustment of one percentage point to the margin or in the discount rate would result in impairment. The discount rate before tax was 12.3 (11.0) per cent. No impairment loss was recognised as a result of performed test.

CONSOLIDATED FINANCIAL STATEMENTS

| | Product development[1] | Software | Assets under construc-tion[2] | Trademark and goodwill[3] | Other intangible assets[4] | Total |
|---|---|---|---|---|---|---|
| **Acquisition cost** | | | | | | |
| Balance at 1 January 2021 | 46,655 | 3,899 | 6,957 | 4,185 | 6,617 | **68,313** |
| Additions | 2,287 | 558 | 9,054 | — | 251 | **12,150** |
| Acquired through business combinations | — | 19 | — | 245 | — | **264** |
| Divestments and disposals | –38 | –121 | –84 | — | –96 | **–339** |
| Reclassifications[5] | 2,501 | –142 | –2,786 | — | 1,312 | **885** |
| Effect of foreign currency exchange rate differences | — | –63 | 17 | 1 | 168 | **123** |
| **Balance at 31 December 2021** | **51,405** | **4,150** | **13,158** | **4,431** | **8,252** | **81,396** |
| Additions | 867 | 2,987 | 15,275 | — | 16 | **19,145** |
| Divested through business combinations | — | –131 | — | –95 | –103 | **–329** |
| Divestments and disposals | –9,291 | –73 | — | –6 | –41 | **–9,411** |
| Reclassifications | 1,832 | –925 | –714 | — | 7 | **200** |
| Effect of foreign currency exchange rate differences | 2 | 2 | 6 | — | 111 | **121** |
| **Balance at 31 December 2022** | **44,815** | **6,010** | **27,725** | **4,330** | **8,242** | **91,122** |
| **Accumulated amortisation and impairment** | | | | | | |
| Balance at 1 January 2021 | –25,761 | –2,048 | — | –4 | –3,332 | **–31,145** |
| Amortisation expense | –4,607 | –367 | — | — | –792 | **–5,766** |
| Acquired through business combinations | — | –5 | — | — | — | **–5** |
| Divestments and disposals | — | 99 | — | –2 | 30 | **127** |
| Reclassifications[5] | — | –54 | — | — | –609 | **–663** |
| Effect of foreign currency exchange rate differences | — | 60 | — | — | –164 | **–104** |
| **Balance at 31 December 2021** | **–30,368** | **–2,315** | **—** | **–6** | **–4,867** | **–37,556** |
| Amortisation expense | –4,579 | –469 | — | — | –786 | **–5,834** |
| Divested through business combinations | — | 83 | — | — | 63 | **146** |
| Divestments and disposals | 9,282 | 46 | — | 6 | 9 | **9,343** |
| Reclassifications | — | –84 | — | — | –64 | **–148** |
| Effect of foreign currency exchange rate differences | –1 | 20 | — | — | –98 | **–79** |
| **Balance at 31 December 2022** | **–25,666** | **–2,719** | **—** | **—** | **–5,743** | **–34,128** |
| **Net balance at 31 December 2021** | **21,037** | **1,835** | **13,158** | **4,425** | **3,385** | **43,840** |
| **Net balance at 31 December 2022** | **19,149** | **3,291** | **27,725** | **4,330** | **2,499** | **56,994** |

1) Volvo Car Group has capitalised borrowing costs related to product development of SEK 418 (199) m. A capitalisation rate of 2.4 (2.2) per cent was used to determine the amount of borrowing costs eligible for capitalisation.
2) Reclassifications mainly from capitalised product development and software.
3) Of the total Net balance at 31 December 2022, Goodwill amounted to SEK 732 (827) m.
4) Other intangible assets refers to licences, dealer network and patents.
5) Other intangible assets includes a patent, since during 2021 the joint venture company V2 Plug-In-Hybrid was reclassified to a wholly-owned subsidiary. Gross value SEK 580m and accumulated amortisation SEK –580 m.

## NOTE 16 – TANGIBLE ASSETS

### ACCOUNTING POLICIES

A tangible asset is recognised when it is controlled by Volvo Car Group, it is expected to generate future economic benefits and is measurable. Tangible assets are recognised at acquisition cost, less accumulated depreciation and potential impairment loss. The cost of the asset includes expenditures that can be directly attributed to the acquisition and bringing the asset in place for its intended use. Borrowing costs are sometimes included in the acquisition cost of an asset if it takes more than 12 months to get it ready for its intended use or sale.

Repair and maintenance expenditures are recognised in the income statement during the period in which they incur.

### CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

Tangible assets are depreciated on a straight-line basis over their estimated useful lives. Management regularly reassesses the useful life of all significant assets. If circumstances change and the estimated useful life has to be revised, it could mean additional depreciation in future periods. In the assessments of useful life, climate-related risks have been considered, mainly impacting assets related to the production of internal combustion engines in line with Volvo Cars plans to be fully electric by 2030.

The carrying amounts of non-current tangible assets are tested for impairment if there are indicators of a decline in value with regards to future economic benefits related to the asset. Impairment is recognised if the carrying value of the asset exceeds the recoverable amount. The recoverable amount is the higher of the net selling price and its value in use. For these calculations, certain estimations must be made with regards to future cash flows, required return on investments and other adequate assumptions. The estimated future cash flows are based on assumptions that represent management's best estimate of the economic conditions that will exist during the asset's remaining useful life and are based on internal business plans or forecasts. Future cash flows are determined on the basis of long-term planning, valid at the date of preparation of the impairment test and approved by Management. The planning is based on expectations regarding future market share, the market growth as well as the products' profitability.

| | Buildings and land[1) 2) 3)] | Machinery and equipment[1) 2) 3) 4)] | Construction in progress | Right of use assets[5)] | Assets under operating leases[1) 6)] | Total |
|---|---|---|---|---|---|---|
| **Acquisition cost** | | | | | | |
| Balance at 1 January 2021 | 23,654 | 101,913 | 2,873 | 8,008 | 4,891 | **141,339** |
| Additions | 487 | 3,901 | 3,428 | 1,396 | 5,747 | **14,959** |
| Acquired through business combinations | 534 | 4,186 | 13 | 1,231 | 562 | **6,526** |
| Divestments and disposals | –1,243 | –10,896 | –83 | –617 | –13 | **–12,852** |
| Reclassifications | 531 | 8,562 | –2,008 | 3 | –2,682 | **4,406** |
| Effect of foreign currency exchange rate differences | 996 | 2,420 | 51 | 316 | 91 | **3,874** |
| **Balance at 31 December 2021** | **24,959** | **110,086** | **4,274** | **10,337** | **8,596** | **158,252** |
| Additions | 345 | 2,835 | 6,132 | 988 | 7,135 | **17,435** |
| Divested through business combinations | –595 | –3,793 | –30 | –248 | –30 | **–4,696** |
| Divestments and disposals | –350 | –2,541 | –46 | –524 | –24 | **–3,485** |
| Reclassifications | 1,477 | 5,151 | –2,747 | 35 | –3,582 | **334** |
| Effect of foreign currency exchange rate differences | 1,315 | 2,852 | 230 | 338 | 279 | **5,014** |
| **Balance at 31 December 2022** | **27,151** | **114,590** | **7,813** | **10,926** | **12,374** | **172,854** |
| **Accumulated depreciation and impairment** | | | | | | |
| Balance at 1 January 2021 | –10,806 | –65,637 | — | –2,040 | –401 | **–78,884** |
| Depreciation expense | –893 | –6,397 | — | –1,387 | –562 | **–9,239** |
| Acquired through business combinations | –97 | –984 | — | –92 | –107 | **–1,280** |
| Divestments and disposals | 800 | 6,332 | — | 102 | 1 | **7,235** |
| Reclassifications | –44 | –3,852 | — | 13 | 452 | **–3,431** |
| Effect of foreign currency exchange rate differences | –216 | –1,023 | — | 7 | –6 | **–1,238** |
| **Balance at 31 December 2021** | **–11,256** | **–71,561** | — | **–3,397** | **–623** | **–86,837** |
| Depreciation expense | –1,084 | –6,860 | — | –1,580 | –733 | **–10,257** |
| Divested through business combinations | 198 | 1,101 | — | 36 | 7 | **1,342** |
| Divestments and disposals | 324 | 1,994 | — | 342 | 2 | **2,662** |
| Reclassifications | –130 | –1,061 | — | –5 | 556 | **–640** |
| Effect of foreign currency exchange rate differences | –409 | –1,325 | — | –117 | –21 | **–1,872** |
| **Balance at 31 December 2022** | **–12,357** | **–77,712** | — | **–4,721** | **–812** | **–95,602** |
| **Net balance at 31 December 2021** | **13,703** | **38,525** | **4,274** | **6,940** | **7,973** | **71,415** |
| **Net balance at 31 December 2022** | **14,794** | **36,878** | **7,813** | **6,205** | **11,562** | **77,252** |

1) Includes impairment losses of SEK –29 (–89) m.
2) Volvo Car Group has no mortgages in Buildings and land or Machinery and equipment. For further information regarding pledged assets, see Note 28 – Pledged assets.
3) Volvo Car Group has capitalised borrowing costs related to Machinery and equipment amounted to SEK 0.6 (2) m.
4) Adjustments have been made to the prior period presented. For more information, see Note 10 – Government grants.
5) For information regarding Right of use assets, see Note 7 – Leasing.
6) Assets under operating leases mainly relate to vehicles sold with repurchase commitments and contracts under the name of Care by Volvo.

## NOTE 17 – OTHER NON-CURRENT ASSETS

| | 31 Dec 2022 | 31 Dec 2021 |
|---|---|---|
| Restricted cash | 63 | 137 |
| Endowment insurance for pensions | 352 | 395 |
| Rental deposition | 90 | 56 |
| Other non-current assets | 3,490 | 4,275 |
| **Total** | **3,995** | **4,863** |

## NOTE 18 – INVENTORIES

### ACCOUNTING POLICIES

Inventories consist of raw material, consumables and supplies, emission credits, semi-manufactured goods, work in progress, finished goods and goods for resale. Assets held under operating lease, with a maturity less or equal to 12 months, are also recognised as inventory. Inventories are measured at the lower of cost and net realisable value. Cost of inventories comprise of all costs of purchase, production charges and other expenditures incurred in bringing the inventories to their present location and condition. The initial value of emission credit inventories is based on the fair value on the date they are earned.

The cost of inventories of similar assets is established using the first-in, first-out method (FIFO). Net realisable value is calculated as the selling price in the ordinary course of business less estimated costs of completion and selling costs. For groups of similar products, a group valuation method is applied. Physical stock counts are carried out annually or more often where appropriate in order to verify the records.

### CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

Inventories are measured at the lower of cost and their net realisable value. Net realisable value is based on the most reliable evidence of the amount Volvo Car Group expects to realise from vehicles and components on future sales trends or needs (for components) and takes into account items that are wholly or partially obsolete.

A future unexpected decline in market conditions could result in an adjustment in future expected sales, requirements and in estimated selling prices assumptions, which may require an adjustment to the carrying amount of inventories.

| | 31 Dec 2022 | 31 Dec 2021 |
|---|---|---|
| Raw materials and consumables | 135 | 189 |
| Work in progress | 13,502 | 10,731 |
| Current assets held under operating lease | 4,226 | 6,147 |
| Finished goods and goods for resale | 28,583 | 19,536 |
| Emissions credits | 505 | — |
| **Total** | **46,951** | **36,603** |
| Of which value adjustment reserve: | –554 | –713 |

The cost of inventories recognised as an expense and included in cost of sales amounted to SEK 259,122 (217,191) m. Current assets held under operating lease refers to a sale of vehicles combined with a repurchase commitment with a maturity less or equal to 12 months.

## NOTE 19 – ACCOUNTS RECEIVABLE AND OTHER CURRENT ASSETS

### ACCOUNTING POLICIES

Accounts receivables are recognised at amortised cost. An allowance for expected credit loss is recognised when the receivable is initially recognised. The recognised allowance for credit losses consists of incurred as well as of expected credit losses. A credit loss has been incurred when there has been an event that has triggered the customers inability to pay. The expected credit loss allowance is based on a multiplier consisting of average historical write-offs and forward-looking macroeconomic data. In these cases, there has not yet been any events incurred showing any inability to pay.

If it has been determined that an accounts receivable is uncollectible, it will be written off and removed. It usually means that collection has been unsuccessful and an entity has no reasonable expectations of recovering the contractual cash flows on the receivable in its entirety or a portion thereof.

| | 31 Dec 2022 | 31 Dec 2021 |
|---|---|---|
| Accounts receivable, non-group companies | 8,876 | 6,388 |
| Accounts receivable, related companies | 16,363 | 12,165 |
| VAT receivables | 3,197 | 2,367 |
| Prepaid expenses and accrued income | 5,805 | 4,532 |
| Other financial receivables | 350 | 184 |
| Restricted cash | 736 | 4 |
| Other receivables[1) 2) 3)] | 6,151 | 3,773 |
| **Total** | **41,478** | **29,413** |

1) Whereof other receivables to related companies amounted to SEK 3,016 (479) m.
2) Whereof interest-bearing receivables amounted to SEK 4,260 (57) m.
3) Adjustments have been made to the prior period presented. For more information see Note 10 Government grants.

Accounts receivable amounted to SEK 25,239 (18,553) m including a credit loss allowance of SEK 128 (127) m of which SEK 43 (34) m is related to allowance for expected credit losses. As of 31 December 2022 the total credit loss allowance amounted to 0.50 (0.68) per cent of total accounts receivable.

The size and geographical spread of the accounts receivable are closely linked to the distribution of Volvo Car Group's sales. Apart from receivables against Polestar, the accounts receivable do not contain any significant concentration of credit risk to individual customers or markets.

| Change in loss allowance for accounts receivable is as follows: | 2022 | 2021 |
|---|---|---|
| Balance at 1 January | 127 | 113 |
| Additions | 40 | 53 |
| Reversals | –28 | –18 |
| Write-offs | –14 | –23 |
| Translation difference | 3 | 2 |
| **Balance at 31 December** | **128** | **127** |

| Aging analysis of accounts receivable and accounts receivables from related companies | Not due | 1–30 days overdue | 30–90 days overdue | >90 days overdue | Total |
|---|---|---|---|---|---|
| **2022** | | | | | |
| Accounts receivable gross | 24,258 | 473 | –121 | 757 | 25,367 |
| Loss allowance | –93 | 0 | –4 | –31 | –128 |
| **Accounts receivable net** | **24,165** | **473** | **–125** | **726** | **25,239** |
| **2021** | | | | | |
| Accounts receivable gross | 17,618 | 131 | 28 | 903 | 18,680 |
| Loss allowance | –77 | — | –5 | –45 | –127 |
| **Accounts receivable net** | **17,541** | **131** | **23** | **858** | **18,553** |

## NOTE 20– FINANCIAL INSTRUMENTS AND FINANCIAL RISKS

### ACCOUNTING POLICIES

**Financial instruments recognition and derecognition**
Financial instruments are any form of contract that gives rise to a financial asset in one company and a financial liability or equity instrument in another company. Financial assets and liabilities are recognised in the balance sheet when Volvo Cars becomes a party to the contractual terms and conditions, namely at the transaction date.

Financial assets are initially recognised at fair value plus transaction costs, except for financial assets carried at fair value through the income statement. In this case transaction costs are expensed in the income statement as financial expenses. Financial assets in form of time deposits and commercial paper with a maturity less than three months from the purchase date are recognised as cash and cash equivalent, otherwise they are recognised as marketable securities.

Financial liabilities are initially recognised at fair value less transaction costs, except for those financial liabilities carried at fair value through the income statement. In this case transaction costs are expensed in the income statement as financial expenses.

A financial instrument is classified as a non-current asset or liability when the maturity is more than twelve months, and as a current asset or liability when the maturity is less than twelve months.

Derivatives with positive fair values, the accumulated unrealised gains, are recognised as non-current or current derivative assets depending on the time to maturity. Derivatives with negative fair values, the accumulated unrealised losses, are recognised as non-current or current derivative liabilities depending on the time to maturity. Derivatives include forwards, options, warrants, earn-out rights and swaps.

A financial asset or a portion of a financial asset is derecognised from the balance sheet upon expiry or when all significant risks and benefits linked to the asset have been transferred to a third party. In those cases where Volvo Cars concludes that all significant risks and rewards have not been transferred, the portion of the financial assets corresponding to Volvo Car's continuous involvement continues to be recognised. A financial liability or a portion of a financial liability is derecognised when the obligation in the contract has been fulfilled, cancelled, or expired.

**Financial Instruments measurement**
Fair value is defined as the price that would be received when selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Amortised cost is calculated using the effective interest method, where any premiums or discounts and directly attributable costs and revenue are capitalised over the contract period. Measurement of financial instruments at fair value is based on prevailing market quotations by estimating future cash flows using the relevant forward curve and discounting with the relevant discount curve for the respective derivative and currency. Currency options are measured using the Garman and Kohlhagen model, an adaptation of Black-Scholes model. Unlisted warrants and earn-out rights are measured by using either the Black-Scholes model or Monte Carlo simulation.

The fair value of a financial asset or liability reflects non-performance risk including the counterparty's credit risk for an asset and Volvo Cars' own credit risk for a liability. Derivatives with positive fair value and commercial paper are adjusted with the Default Probability derived from the Credit Default Swap curve per counterparty. The same adjustment is made for the derivatives with negative fair value with Volvo Cars own credit risk using the Default Probability of Volvo Car AB credit default swaps.

Financial instruments are divided into three levels depending on the market information available for fair value measurement:

- Level 1: Instruments are measured based on unadjusted quoted prices in active markets for identical assets or liabilities that the entity can access at the measurement date.
- Level 2: Instruments are measured based on inputs other than quoted market prices included within Level 1 that are observable for the asset or liability, either directly such as quotations or indirectly such as derived from quotations.
- Level 3: Instruments are measured based on unobservable inputs for the asset or liability.

The majority of financial instruments that Volvo Car Group holds as of 31 December 2022 are level 2 instruments. The measurement levels are presented in the table financial instruments by category and measurement level in this note.

**Classification of financial assets and liabilities**
Financial assets and liabilities are measured at amortised cost or fair value depending on their initial classification at recognition. Volvo Cars applies different business models for financial instruments.

*Financial assets carried at amortised cost*
The classification depends on the entity´s applied business model for the management of the respective financial asset and contractual cash flow characteristics. The business model and the contractual cash flow characteristics for these financial assets is to collect the

contractual cashflows. The contractual cash flows are solely payment of principal and interest. Financial assets carried at amortised cost include accounts receivables, cash and cash equivalents, time deposits and other financial assets.

Accounts receivables are recognised at the amount expected to be received including allowance for expected credit loss, see note 19 – Account receivables and other current assets.

*Financial liabilities carried at amortised cost*

Financial liabilities to credit institutions, issued bonds, accounts payable and other financial liabilities are assigned to this category. These liabilities are measured at amortised cost, using the effective interest rate method, where any premiums or discounts and directly attributable transaction costs are capitalised as part of the liability over the contract period.

*Financial assets and liabilities carried at fair value through income statement*

Financial assets and liabilities that are held for sale are carried at fair value through the income statement. In Volvo Cars, this encompasses derivatives, commercial paper, convertible bonds, equity investments, warrants and earn-out rights. Commercial paper are presented in Note 21 – Marketable securities and cash and cash equivalent. For further information about issued warrants related to share-based incentive programme see Note 8 – Employees and remuneration.

Realised and unrealised gains and losses from fluctuation in fair value of these instruments are recognised as operating income or finance net in the income statement, depending on the nature of the underlying contracts.

*Equity instruments*

Investments in other long-term securities are holdings categorised as level 1 and level 3 financial instruments. Volvo Cars includes in the consolidated accounts so-called earn-out rights that will accrue to the Group if a number of criteria have been met during a specific time period in the future. These earn-out rights are categorised as level 3 financial instruments and are measured by using a Monte Carlo simulation. The simulation is based on a volatility of 80 per cent and a risk-free interest rate of 4 per cent. A change in volatility of +/–10 percentage points results in a value range of SEK 2,936–3,484 m. Furthermore, the risk-free interest rate flexed +/–2 percentage points, results in a value range of SEK 3,172–3,308 m with a volatility of 80 per cent. Other substantial level 3 investments consist of unlisted share warrants and earn-out rights in the listed company Luminar Technologies Inc (Luminar). These instruments are measured using the Black-Scholes model based on:

- The probability that Volvo Car Group will fulfil contractual terms and when in time this will occur.
- The assessed risk-free interest rate which been determined at 4.7 per cent and 4 per cent.
- Volatility of the underlying share price which has been determined at 88,5 per cent.

There are also traditional holdings of equity instruments in Luminar which are categorised as level 1 instruments.

There are also other holdings of non-listed equity instruments that are categorised as level 3 instruments and they are measured at fair value. Volvo Car Tech Fund AB holds the majority of these holdings.

**Sensitivity analysis for warrants in Luminar (SEKm)**

| | Likelihood of triggering event | | | | |
|---|---|---|---|---|---|
| **Volatility** | **–10%** | **–5%** | **0%** | **5%** | **10%** |
| **–10%** | 89 | 95 | 102 | 108 | 115 |
| **–5%** | 91 | 98 | 105 | 111 | 118 |
| **94%** | 94 | 101 | 108 | 114 | 121 |
| **5%** | 96 | 103 | 110 | 117 | 124 |
| **10%** | 98 | 106 | 113 | 120 | 127 |

*Financial assets and liabilities carried at fair value through income statement – designated hedging instrument*

Financial instruments carried at fair value through other comprehensive income consist of derivatives, when they are classified as a hedging instruments. Unrealised gains and losses from fluctuations in the fair value of these instruments are recognised in other comprehensive income until the underlying transaction occur. The accumulated gain or loss on these hedging instruments is then recycled to the income statement and is recognised in operating income.

## CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

Accounting for financial instruments includes performing certain estimates and judgements, among others:

- **Applied business model with regards to the measurement of interest-bearing instruments:** The main purpose of holding interest-bearing assets is to collect contractual cash flows of principal and interest. Sales of receivables are not performed in that magnitude that the business model could be challenged. A majority of interest-bearing assets including certain convertible bonds, that fulfill the SPPI test, will be measured at amortised cost.
- **Derecognition of receivables:** Invoiced sales are in certain cases subject to contracts for factoring or other financing solutions with a third party namely a bank or a financial institution. If the criteria for derecognition of a receivable are not fulfilled, the receivable remain recognised on the balance sheet.
- **Equity instruments - recognition of fair value changes:** Volvo Cars has holdings of listed and unlisted equity instruments as well as unlisted warrants and so called earn-out rights. The measurement of the unlisted warrants are made according to the Black-Scholes model and the most relevant judgement to be made is whether Volvo Cars will fulfil the vesting criteria and when they would do so, the risk-free interest rate and volatility of the underlying share price.

The table below presents financial instruments by category and measurement level.

| | Measure-ment level | 2022-12-31 Carrying value | 2022-12-31 Fair value | 2021-12-31 Carrying value | 2021-12-31 Fair value |
|---|---|---|---|---|---|
| **Financial assets carried at fair value through income statement** | | | | | |
| Other long-term securities holdings[1)2)] | 1,3 | 4,353 | 4,353 | 1,765 | 1,765 |
| Outstanding derivatives – for hedging of currency risk | 2 | 315 | 315 | 280 | 280 |
| Outstanding derivatives – for hedging of interest rate risk | 2 | — | — | 6 | 6 |
| Commercial paper[3)] | 2 | 1,760 | 1,760 | 2,692 | 2,692 |
| | | **6,428** | **6,428** | **4,743** | **4,743** |
| **Financial assets carried at fair value through other comprehensive income** | | | | | |
| Outstanding derivatives – for hedging of currency risk | 2 | 2,149 | 2,149 | 555 | 555 |
| Outstanding derivatives – for hedging of commodity price risk | 2 | 434 | 434 | 152 | 152 |
| | | **2,583** | **2,583** | **707** | **707** |
| **Financial assets carried at amortised cost** | | | | | |
| Accounts receivables | — | 25,239 | 25,239 | 18,553 | 18,553 |
| Other non-current and current financial assets[4)] | — | 13,387 | 13,387 | 13,843 | 13,843 |
| Marketable securities[5)] | — | 2,965 | 2,965 | 6,136 | 6,136 |
| Cash and cash equivalents | — | 62,433 | 62,433 | 61,434 | 61,434 |
| | | **104,024** | **104,024** | **99,966** | **99,966** |
| **Financial liabilities carried at fair value through income statement** | | | | | |
| Outstanding derivatives – for hedging of currency risk | 2 | 17 | 17 | 210 | 210 |
| Outstanding derivatives – for hedging of interest rate risk | 2 | 599 | 599 | 19 | 19 |
| | | **616** | **616** | **219** | **219** |
| **Financial liabilities carried at fair value through other comprehensive income** | | | | | |
| Outstanding derivatives – for hedging of currency risk | 2 | 1,816 | 1,816 | 2,430 | 2,430 |
| Outstanding derivatives – for hedging of commodity price risk | 2 | 202 | 208 | 1 | 1 |
| | | **2,018** | **2,018** | 2,431 | 2,431 |
| **Financial liabilities carried at amortised cost** | | | | | |
| Trade payable | — | 68,913 | 68,913 | 48,283 | 48,283 |
| Non-current and current bonds and liabilities to credit institutions[6)] | — | 28,810 | 27,390 | 25,415 | 26,362 |
| Other non-current and current liabilities | — | 14,343 | 14,343 | 17,806 | 17,806 |
| | | **112,066** | **110,646** | 91,504 | 92,451 |

1) Investments in equity instruments amounted to SEK 4,353 (1,765) m whereof SEK 252 (750) m are holdings categorised as level 1 financial instruments and SEK 4,101 (1,015) m are categorised as level 3 financial instruments.
2) The fair value of the earn-out rights at level 3 category in Polestar Group amounted to SEK 3,225 (—) m. The fair value for unlisted share warrants and earn-out share rights in Luminar at level 3 category amounted to SEK 108 (431) m.
3) Whereof SEK 450 (1,860) m are reported as marketable securities in the balance sheet and SEK 1,310 (832) m are reported as cash and cash equivalents.
4) Adjustments have been made to the prior period presented. For further information see Note 10 - Government Grants.
5) Consisiting mainly of time deposits.
6) The carrying amount of the bonds and liabilities to credit institutions including a fair value adjustment amounting to SEK –287 (—) m, which relates to the fair value hedging.

The table below presents the nominal amounts and fair value of outstanding derivative instruments.

| | **31 December 2022** | | 31 December 2021 | |
|---|---|---|---|---|
| | Nominal amount | Fair value | Nominal amount | Fair value |
| **Derivative instruments for hedging of currency risk related to financial assets and liabilities** | | | | |
| *Foreign exchange swaps and forward contracts* | | | | |
| – receivable position | 16,977 | 292 | 8,209 | 63 |
| – payable position | 2,255 | –11 | 4,944 | –12 |
| **Subtotal** | | **281** | | **51** |
| **Derivative instruments for hedging of currency risk in future commercial cash flows** | | | | |
| *Foreign exchange swaps and forward contracts* | | | | |
| – receivable position | 52,809 | 2,136 | 30,121 | 555 |
| – payable position | 36,150 | –1,815 | 61,815 | –2,430 |
| *Currency options* | | | | |
| – receivable position | 749 | 34 | 3,988 | 217 |
| – payable position | 1,161 | –7 | 4,989 | –198 |
| **Subtotal** | | **348** | | **–1,856** |
| **Derivative instruments for hedging of interest rate risk** | | | | |
| *Interest rate swaps* | | | | |
| – receivable position | — | — | 1,029 | 6 |
| – payable position | 11,672 | –599 | 1,544 | –19 |
| **Subtotal** | | **–599** | | **–13** |
| **Derivative instruments for hedging of commodity price risk** | | | | |
| *Forward contracts* | | | | |
| – receivable position | 1,327 | 434 | 543 | 152 |
| – payable position | 940 | –202 | 40 | –1 |
| **Subtotal** | | **232** | | **151** |
| **Total** | | **263** | | **–1,667** |

The table below illustrates gains and losses, interest income and expenses that have affected the income statement divided per category of financial instruments.

| | 2022 | | | 2021 | | |
|---|---|---|---|---|---|---|
| | Gains/ losses[1] | Interest income | Interest expenses[2)3)] | Gains/ losses[1] | Interest income | Interest expenses[2)3)] |
| **Recognised in operating income** | | | | | | |
| **Financial assets and liabilities carried at fair value through other comprehensive income, recycled to income statement** | | | | | | |
| Derivative instruments for hedging currency risk and commodity price risk | –3,914 | — | — | –2,046 | — | — |
| **Financial assets and liabilities carried at fair value through the income statement** | | | | | | |
| Derivative instruments for hedging currency risk | 10 | — | — | 22 | — | — |
| **Financial assets and liabilities carried at amortised cost** | | | | | | |
| Accounts receivable and trader payable | 979 | — | — | 1,576 | — | — |
| **Impact on operating income** | **–2,925** | **—** | **—** | **–448** | **—** | **—** |
| **Recognised in net finance net** | | | | | | |
| **Financial assets and liabilities carrried at fair value through the income statement** | | | | | | |
| Equity instruments[4] | –877 | — | — | –881 | — | — |
| Commercial paper | –24 | 12 | — | 14 | 0 | — |
| Derivative instruments for hedging of currency risk and interest rate risk | 976 | — | 54 | 1,590 | — | 17 |
| **Financial assets and liabilities carried at amortised cost** | | | | | | |
| Cash and cash equivalents and marketable securities | 1,482 | 698 | –19 | 1,845 | 474 | — |
| Financial assets and liabilities | –2,669 | 142 | –845 | –3,259 | 126 | –857 |
| **Impact on net financial items** | **–1,112** | **852** | **–810** | **–691** | **600** | **–840** |

1) The total gain/losses amount excludes gain and losses regarding financial leases amounted to SEK –5 (–12) m.
2) The total interest expenses excludes interest expenses on financial leases amounted to SEK –220 (–215) m.
3) The total interest expenses excludes interest expenses on pensions amounted to SEK –226 (–204) m.
4) The total fair value change of all holdings in Luminar amounted to SEK –822 (–901) m. For further information about issued warrants related to share-based incentive programme see Note 8 – Employees and remuneration.

## HEDGE ACCOUNTING

Hedge accounting is applied when derivative instruments are included in a documented hedge relationship. For hedge accounting to be applied, a direct connection between the hedging instrument and the hedged item is required. At the inception of the hedge, Volvo Cars documents the relationship between hedging instruments and hedged items, as well as its risk management strategy and objective for undertaking various hedging transactions. Volvo Cars also documents its assessment, both at hedge inception and on an ongoing basis, of whether the derivatives that are used in hedging transactions are highly effective in offsetting changes in fair values or cash flows of the hedged items.

*Fair value hedge*

Hedge accounting can be applied for a financial liability or specified part of a liability, recognised at fair value through the income statement. The criteria for applying fair value hedge accounting is that the designation should eliminate the significant accounting mismatch of having a fixed rate liability carried at amortised cost and a related derivative contract, such as an interest rate swap (IRS) or cross-currency interest rate swaps (XCCY-IRS), which is recognised at fair value through the income statement.

The carrying value of the hedged item, namely a foreign currency fixed rate issued bond or loan is initially recognised at amortised cost. The hedged item is subsequently measured at fair value through the income statement. Changes in fair value of the hedged item and the hedging instrument are both recognised in the income statement and the accounting mismatch is therefore eliminated. Gains and losses related to the interest rate swaps or cross-currency interest rate swaps used in hedging fixed rate borrowings and the changes in the fair value of the hedged fixed rate borrowings attributable to interest rate risk are recognised in the income statement within other financial income and expenses.

If the hedge no longer meets the criteria for hedge accounting, the adjustment to the carrying amount of a hedged item for which the effective interest method is used is accrued to the income statement over the contracts' remaining period to maturity. Ineffectiveness has affected net income for 2022.

*Net investment hedge*

Hedging of net investments in foreign operations refers to hedges held to reduce the effect of changes in the value of a net investment in a foreign operation due to changes in foreign exchange rates. Net investments in foreign operations consists of the value of Volvo Cars share of the net assets of the foreign subsidiary. The Group hedge the currency risk associated with the translation of the net assets including goodwill in foreign subsidiaries with functional currency EUR and USD.

Volvo Cars designates EUR 820m of the EUR debt and USD 160 m of the USD debt as hedging instruments to reduce the translation exposure on net investments in EUR and USD. The hedge reserve with regards to net investment in foreign operations is included in other comprehensive income. In the event of a divestment, the accumulated hedge effect is transferred from the hedge reserve in equity to the income statement as part of the financial income or expenses. No ineffectiveness has affected net income for 2022.

*Cash flow hedge*

Cash flow hedging refers to the hedging of highly probable forecasted commercial transactions in foreign currencies, expected to occur at various dates during the next 48 months, against currency rate risks. Hedge accounting is also applied for expected future commodity consumption against commodity price risk. To hedge the exposure, the Group uses forward contracts as well as option contracts. In cash flow hedge accounting the changes in fair value of the hedging instruments are recognised in other comprehensive income and accumulated in other reserves in equity. These reserves are recycled to the income statement in the same period as when the hedged forecast transaction affects the income statement. The effect from realised cash flow hedges is classified as Revenue and Cost of sales, respectively, depending on the underlying substance of the transaction.

The hedging relationship is regularly tested up until its maturity date. If the identified relationships are no longer deemed effective, the fluctuation in fair value on the hedging instrument from the last period the instrument was considered effective is recognised in the income statement. If the hedged transaction is no longer expected to occur, the hedge's accumulated changes in value are immediately transferred from other comprehensive income to the income statement and are included in other operating income and expenses.

Prospective effectiveness testing is performed at inception of the hedge and on an aggregated level on a monthly basis. The test is performed by comparing the critical terms, which are nominal amount, timing, and foreign currency, of the hedging instrument and the hedged item. If critical terms match and the credit risk of the counterparty has not changed significantly, the hedge relationship is highly effective. Any ineffectiveness in a hedge relationship is recognised in the income statement. No ineffectiveness has affected net income for 2022.

In the table below presents the fair value hedges by maturity date.

| | 2022 | | | | Carrying amount | | |
|---|---|---|---|---|---|---|---|
| **Maturity date** | Nominal amount | Change in fair value, hedged item | Change in fair value, derivatives | Ineffectiveness reflected in income statement | Financial assets | Financial liabilities | Variable benchmark |
| 2024 | 200 | 33 | –34 | –1 | — | –34 | Euribor 3m |
| 2025 | 300 | 68 | –66 | 2 | — | –66 | Euribor 3m |
| 2027 | 100 | 47 | –47 | — | — | –47 | Euribor 3m |
| 2028 | 200 | 139 | –151 | –12 | — | –151 | Euribor 3m |
| **Total** | | **287** | **–298** | **–11** | **—** | **–298** | |

In the table below the outstandig derivatives within hedge accounting are presented.

| | Assets | Liabilities | Net | Tax | Hedge reserve after tax | Recycled from other compre-hensive income | Ineffectiveness reflected in income statement |
|---|---|---|---|---|---|---|---|
| **2022** | | | | | | | |
| **Cash flow hedge** | | | | | | | |
| – Currency risk | 2,149 | –1,816 | 333 | –67 | 266 | 1,682 | — |
| – Energy price risk | 373 | –38 | 335 | –69 | 266 | –102 | — |
| – Raw material price risk | 61 | –164 | –103 | 21 | –82 | –23 | — |
| **Subtotal** | **2,583** | **–2,018** | **565** | **–115** | **450** | **1,557** | — |
| **Net investments hedge** | | | | | | | |
| – Currency risk | — | –1,224 | –1,224 | 252 | –972 | 11 | — |
| **Total** | **2,583** | **–3,242** | **–659** | **137** | **–522** | **1,568** | — |
| **Fair value hedge through the income statement** | | | | | | | |
| – Interest rate risk | — | –298 | –298 | — | — | — | –11 |

| | Assets | Liability | Net | Tax | Hedge reserve after tax | Recycled from other compre-hensive income | Ineffectiveness reflected in income statement |
|---|---|---|---|---|---|---|---|
| **2021** | | | | | | | |
| **Cash flow hedge** | | | | | | | |
| – Currency risk | 555 | –2,430 | –1,875 | 382 | –1,493 | 326 | — |
| – Energy price risk | 128 | — | 128 | –26 | 102 | — | — |
| – Raw material price risk | 24 | –1 | 23 | –5 | 18 | — | — |
| **Subtotal** | 707 | –2,431 | –1,724 | 351 | –1,373 | 326 | — |
| **Net investments hedge** | | | | | | | |
| – Currency risk | — | –514 | –514 | 105 | –409 | — | — |
| **Total** | 707 | –2,955 | –2,238 | 456 | –1,782 | 326 | — |
| **Fair value hedge through the income statement** | | | | | | | |
| – Interest rate risk | — | — | — | — | — | — | — |

## FINANCIAL RISKS

In its operations, Volvo Car Group is exposed to various types of financial risks such as currency risk, funding and liquidity risk, interest rate risk, commodity price risk and credit risk.

Volvo Car Group's treasury function is responsible for managing and controlling these financial risks, ensuring that appropriate financing is in place through capital market transactions, loans and committed credit facilities and manages Volvo Cars liquidity.

The management of financial risks is governed by Volvo Car Group's Financial Policy Framework which is approved by the Board of Directors (BoD) and is subject to review every second year or when required. The policy focuses on minimising the effects from fluctuating financial markets on Volvo Car Group's financial earnings. Policy compliance is reported to the CFO on a monthly basis; policy compliance is also a part of the general treasury reporting to the BoD. There is an alert function in place safeguarding mandate limits on a daily basis.

### Currency risk

Currency exposure arises as Volvo Cars produces cars in various countries, it arises from procurement and the mix of sales currencies. Relative changes in currency rates have a direct impact on the Volvo Car Group's operating income, finance net, balance sheet and cash flow statement.

The currency risk is related to:

- Expected future cash flows from sales and purchases made in foreign currencies (transaction risk)
- Changes in value of assets and liabilities denominated in foreign currencies (translation risk)
- Net investments in foreign operations (translation risk)

***Transaction exposure risk***

*Volvo Car Group Financial Policy Framework*

The currency transaction exposure risk arises from cash flows in functional currencies, namely other currencies than the presentation currency of the Volvo Car Group, which is Swedish krona. Sales in combination with purchases made in other currencies than Swedish krona determine the transaction exposure of the Group.

The Volvo Car Group Financial Policy Framework states, regarding currency transaction risk management, that up to 80 per cent of the future expected cash flows in the coming 24 months and up to 60 per cent of the future expected cash flows in the coming 25 to 48 months can be hedged with adequate financial instruments: options, forwards or combined instruments with maturities matching expected timing of cash flows. Hedging strategies using financial instruments for long-term exposures (over 48 months) require approval by the BoD. The management of currency risk within the above stipulated intervals is delegated by the Board of Directors to Group Treasury via the CFO.

For currency risk management purposes, transaction exposure is expressed in terms of Cash Flow at Risk (CFaR), which is the maximum loss at a 95 per cent confidence level in one year. The CFaR is based on the cash flow forecast, currency exchange rates, market volatility and correlations.

The hedging mandates are proposed by Group Treasury and approved by the CFO and are expressed as a strategic hedge level of CFaR. The strategy allows for mandates to deviate from a benchmark. The deviation mandate is given as a tactical mandate in terms of timing. The hedging mandates are revised at least quarterly.

*Status at year end*

The total currency inflow and outflow for Volvo Car Group was distributed according to below table:

| | Inflow | | Outflow | |
|---|---|---|---|---|
| | **2022** | 2021 | **2022** | 2021 |
| CNY | 30% | 25% | 38% | 24% |
| EUR | 21% | 24% | 34% | 50% |
| GBP | 6% | 6% | 1% | 1% |
| JPY | 3% | 3% | 4% | 7% |
| USD | 22% | 21% | 19% | 12% |
| Other | 18% | 21% | 4% | 6% |

Forward contracts, currency options and foreign currency swaps are used to hedge the currency risk in expected future cash flows from sales and purchases made in foreign currencies. Hedging of the currency risk in the Chinese industrial entities can be made onshore in China.

The CFaR at year end for the cash flows over a one year horison for the Group, excluding hedges, was approximately SEK 9,461 (6,498) m. The table below shows the percentage of the forecasted cash flows that were hedged (expressed both in nominal terms and in CFaR).

| | 0–12 months | | 13–24 months | | 25–48 months | |
|---|---|---|---|---|---|---|
| | **2022** | 2021 | **2022** | 2021 | **2022** | 2021 |
| Nominal hedge, % | 42 | 56 | 15 | 20 | 3 | — |
| CFaR hedge % | 50 | 46 | 25 | 16 | 8 | — |

***The table below presents cash flow hedge volumes by maturity for the 10 largest exposure currencies, nominal amounts in millions, local currency[1]***

| Maturity | AUD | BRL | CAD | EUR | GBP | KRW | NOK | PLN | TRY | USD | Total fair value of outstanding derivatives[2] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Average hedge rate | 6.72 | — | 7.28 | 10.53 | 12.17 | 0.008 | 1.06 | — | — | 10.46 | |
| 1–12 months | –532 | — | –431 | 1,874 | –989 | –279,045 | –2,750 | — | — | –1,330 | –494 |
| 13–24 months | –165 | — | –160 | 442 | –475 | — | –100 | — | — | –821 | 307 |
| 25–36 months | — | — | — | — | — | — | — | — | — | –600 | 409 |
| 37–48 months | — | — | — | — | — | — | — | — | — | –420 | 126 |

1) The average duration of the portfolio was 12 (eight) months.
2) As of 31 December 2022 the fair value of the outstanding derivatives for hedging of currency price risk in future commercial cash flows amounted to SEK 348 (–1,875) m.

***Translation exposure risk***

*Volvo Car Group Financial Policy Framework*

Translation risk in Volvo Car Group relates to the translation of net investments in foreign operations and translation risk of assets and liabilities in foreign currencies related to the operations. The translation of net investments in foreign operations can generate a positive or negative impact recognised in other comprehensive income. Translation risk of assets and liabilities in foreign currencies related to the operations, as accounts receivable, trade payable and warranty provisions, will generate an impact on the operating income. All translation of financial assets and liabilities are reflected in the finance net.

The translation risk is hedged either by matching the currency composition of debt with the currency composition of assets or via financial derivatives.

Total translation effect of investments in foreign operations was SEK 3,872 (4,375) m. This effect is recognised in other comprehensive income. A ten per cent change in the Swedish krona against major currencies has a net impact on the net investments in the other comprehensive income of approximately SEK 5,617 (3,951) m. Part of the investments in operations in the Eurozone and Americas are hedged with debt instruments.  The residual translation risk is part of the strategic risk management and is not hedged with financial instruments.

*Status at year end*

The table below shows the translation exposure of net investments in foreign operations as of 31 December 2022.

| Currency | Investments in foreign operations (SEKm) | Translation exposure |
|---|---|---|
| CNY | 29 332 | 29 332 |
| EUR | 30 512 | 30 512 |
| USD | –10 329 | –10 329 |
| JPY | 932 | 932 |
| MYR | 1 286 | 1 286 |
| Other | 4 435 | 4 435 |
| **Total** | **56 168** | **56 168** |

**Funding and liquidity risk management**

***Capital Structure***

Volvo Car Group's Financial Policy Framework stipulates that the capital structure shall reflect a reasonable balance between risks and rewards and cost of capital. The medium-to-long-term capital structure target for Volvo Cars shall be optimised among cost of capital, rating considerations and company specific risk factors. The capital structure shall be analysed on a regular basis. The long-term objective is to have a capital structure that qualifies for and sustains an investment grade rating; Volvo Car Group's current external rating by Moody's is Ba1 and by Standard & Poor BB+. The equity ratio as per 31 December 2022 is 35.4 (33.4) per cent, whereof shareholders' equity amounted to SEK 117,278 (94,512) m. Adjustments have been made to the prior period presented. For further information see Note 10-Government grants.

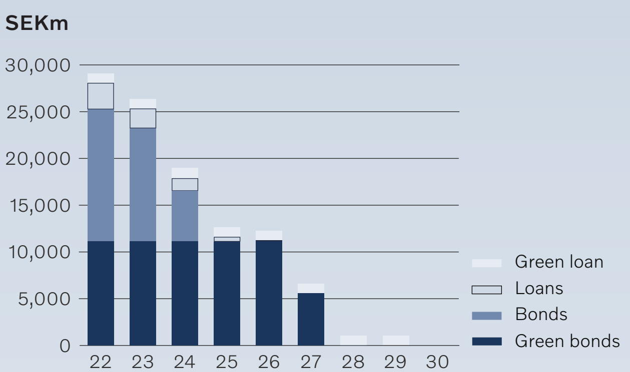
***Funding risk management***

*Volvo Car Group Financial Policy Framework*

Funding risk is the risk that the Volvo Car Group does not have access to adequate financing on acceptable terms at any given point.

All draw down on new loans is evaluated against future liquidity needs and investment plans. The Volvo Car Group should for the coming 12 months, at any given time, have available committed financing for investments and maturing loans. To limit the risk of refinancing, debt maturing over the next 12 months should not exceed 25 per cent of total debt.

***Outstanding bonds and liabilites to credit institutions (at successive year end)***




*Status at year end*

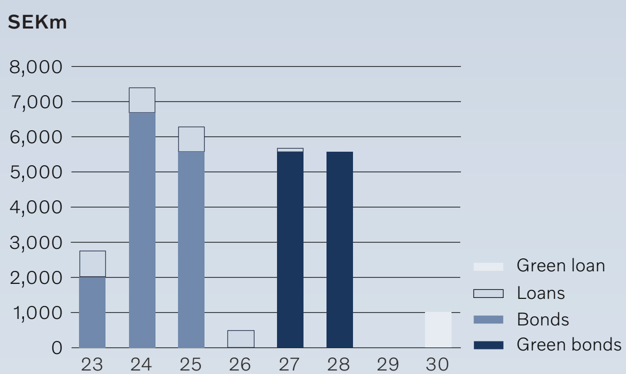
During 2022 Volvo Cars issued a 6-year EUR 500 m green bond, as well as entered into a green bank loan of SEK 1,000 m with Svensk Exportkredit. A green loan facility was also signed with the Nordic Investment Bank, amounting to EUR 200 m. The facility with Nordic Investment Bank is not yet drawn upon.

As of 31 December 2022 the outstanding debt of bonds and liabilities to credit institutions, excluding lease contracts and transaction costs, in Volvo Car Group was SEK 29,140 (25,424) m. During 2022 loans of SEK 4,498 (10,788) m matured or were amortised. The remaining credit duration of outstanding debt was 3.1 (2.8) years. At year end, debt maturing over the next 12 months amounted to 9 per cent of total debt.

Outstanding debt is presented in the below table.

| Funding | Currency | Nominal amount in local currency (million) | SEKm |
|---|---|---|---|
| Bank loan | USD | 163 | 1,699 |
| Bank loan | SEK | 1,013 | 1,013 |
| Green bank loan | SEK | 1,000 | 1,000 |
| Bonds | EUR | 1,100 | 12,227 |
| Bond | SEK | 2,000 | 2,000 |
| Green bonds | EUR | 1,000 | 11,116 |
| Other | PLN | 36 | 85 |
| **Total** | | | **29,140** |

***Bonds and liabilities to credit institutions – amortisation schedule***



In relation to all external financing, there are information undertakings and covenants according to Loan Market Association (LMA) and capital market standards. These are monitored and calculated quarterly to fulfil the terms and conditions stated in the financial agreements. Covenants are based on standard measurements such as EBITDA and Net debt. As of 31 December 2022 there is substantial headroom in the fulfilment of all covenants.

***Liquidity risk management***

*Volvo Car Group Financial Policy Framework*

Liquidity risk is the risk that Volvo Car Group is unable to meet ongoing financial obligations on time. In order to meet seasonal volatility in cash requirements, Volvo Car Group shall always have committed credit facilities or cash and marketable securities available corresponding to 15 per cent or more of revenue. The rolling 12 month cash flow forecasts are the basis for the risk assessment of liquidity risk management.

| **Undrawn committed credit facilities (SEKm):** | **31 Dec 2022** | 31 Dec 2021 |
|---|---|---|
| – Expiring within one year | 2,223 | — |
| – Expiring after one year but within five years | 14,451 | 13,377 |
| **Total** | **16,674** | **13,377** |

*Status at year end*

As of 31 December 2022, Volvo Car Group cash and cash equivalent, marketable securities and committed credit facilities amounted to SEK 83,832 (83,638) m, approximately 25 (30) per cent of revenue. The liquidity of Volvo Car Group is strong considering the maturity profile of the external debt, the balance of cash and cash equivalents, marketable securities and available credit facilities from banks.

The following table presents the maturity structure of the Volvo Cars's financial assets and liabilities. The figures shown are contractual undiscounted cash flows which Volvo Cars is liable to pay or eligible to receive.

| | **2022** | | | | **2021** | | | |
|---|---|---|---|---|---|---|---|---|
| | Less than 3 months | 3 months to 1 year | 1–5 years | Over 5 years | Less than 3 months | 3 months to 1 year | 1–5 years | Over 5 years |
| **Assets** | | | | | | | | |
| Other long-term securities holdings[1] | | | 3,333 | | — | — | 430 | |
| Non-current derivative assets | — | — | 1,128 | — | — | — | 169 | — |
| Other non-current assets | — | — | 6,050 | 179 | — | — | 8,636 | 375 |
| **Total non-current financial assets** | **—** | **—** | **10,511** | **179** | **—** | **—** | **9,235** | **375** |
| Accounts receivable[2] | 24,409 | 830 | — | — | 17,494 | 1,059 | — | — |
| Current derivative assets | 722 | 1,048 | — | — | 244 | 580 | — | — |
| Other current assets[3] | 5,918 | 1,241 | — | — | 2,179 | 2,653 | — | — |
| Marketable securities | 3,415 | — | — | — | 3,864 | 4,132 | — | — |
| Cash and cash equivalents | 63,743 | — | — | — | 62,265 | — | — | — |
| **Total current financial assets** | **98,207** | **3,119** | **—** | **—** | **86,046** | **8,424** | — | — |
| **Total financial assets** | **98,207** | **3,119** | **10,511** | **179** | **86,046** | **8,424** | **9,235** | **375** |
| **Liabilities** | | | | | | | | |
| Bonds, non-current | — | — | 17,596 | 5,363 | — | — | 13,256 | 5,145 |
| Liabilities to credit institutions, non-current | — | — | 2,100 | 996 | — | — | 2,443 | 99 |
| Non-current derivative liabilities | — | — | 674 | 151 | — | — | 329 | 19 |
| Other non-current interest-bearing liabilities | — | — | 3,587 | 1,258 | — | — | 3,688 | 1,821 |
| Other non-current liabilities | — | — | 4,723 | 3 | — | — | 6,035 | 5 |
| **Total non-current financial liabilities** | | | **28,680** | **7,771** | **—** | **—** | **25,751** | **7,089** |
| Bonds, current part | 2,000 | — | — | — | — | — | — | — |
| Liabilities to credit institutions, current part | 14 | 741 | — | — | 2 | 4,469 | — | — |
| Trade payable | 63,729 | 5,184 | — | — | 44,465 | 3,817 | — | — |
| Current derivative liabilities | 656 | 1,153 | — | — | 1,001 | 1,311 | — | — |
| Other current interest-bearing liabilities | 386 | 1,114 | — | — | 323 | 1,154 | — | — |
| Other current liabilities | 3,972 | 5,645 | — | — | 6,099 | 5,669 | — | — |
| **Total current financial liabilities** | **70,757** | **13,837** | — | — | **51,890** | **16,420** | **—** | **—** |
| **Total financial liabilities** | **70,757** | **13,837** | **28,680** | **7,771** | **51,890** | **16,420** | **25,751** | **7,089** |

1) Aging of the equity instruments are only covering warrants and earn-out rights.
2) For aging analysis of accounts receivable see Note 19 – Accounts receivable and other current assets.
3) Adjustments have been made to the prior period presented. For further information see Note 10 Government grants.

### Interest rate risk management

Changes in interest rates will impact Volvo Car Group's finance net and the value of financial assets and liabilities. The return on cash and cash equivalents, marketable securities and credit facilities is impacted by changes in interest rates. The exposure can be either direct from interest-bearing debt or indirect through leasing or other financing arrangements.

*Volvo Car Group Financial Policy Framework*

According to the policy, the interest rate risk in Volvo Car Group's net debt position has a benchmark duration of 12 months. The policy allows for a deviation of –9/+12 months from the benchmark. The interest rate mandate is proposed by Group Treasury and approved by the CFO. The hedging mandate shall be revised at least quarterly.

*Status at year end*

As of 31 December 2022 Volvo Car's interest-bearing assets consisted of cash in form of cash at bank, short-term deposits and commercial paper. The average interest fixing term on these assets was less than one (one) month. The average interest fixing term on debt was 18 (24) months. At year-end the duration of the net debt position was 17 (23) months. The average cost of borrowing was 2.38 (2.18) per cent.

To manage interest rate risk, Volvo Cars uses interest rate swaps.

The table below shows the estimated effect in SEKm of a parallel shift of the interest curves up or down by one per cent (100 basis points) on all exposed external loans and interest rate swaps.

| Interest rate sensitivity, effect on Finance Net | 2022 | 2021 |
|---|---|---|
| Market rate +1% | –157 | –160 |
| Market rate –1% | 162 | 167 |

The impact from cash and cash equivalents, marketable securities and credit facilities is immaterial. The fixed interest period of the asset portfolio is short as it is dominated by bank deposits.

***Benchmark rate reform***

The interest rate benchmark reform refers to the transition from the existing, traditional interest rate benchmark - Interbank Offered Rates (IBOR) – to new benchmark rates.

Volvo Cars is currently exposed to external interest rate risk in EUR, SEK and USD from the EURIBOR, STIBOR and USD LIBOR benchmarks respectively.

Regarding USD denominated exposure, the remaining USD LIBOR benchmark fixings will be discontinued after June 2023 and existing, external floating rate debt in USD will be transitioned to the new risk-free standard, SOFR (Secured Overnight Financing Rate). Work on this transition is at its final stages and the total exposure subject to benchmark transition is USD 164m at year end. The transition of exposure from USD LIBOR to SOFR will not create an adverse interest rate risk effect due to re-structuring of relevant credit risk spreads to align with the pre-existing USD LIBOR base rate benchmark.

For EUR and SEK there is no expected change in related floating benchmarks and thus cash flow risk is not affected. The related benchmarks are currently not scheduled for termination and will therefore continue to dictate interest cash flows for floating assets, liabilities and derivatives in these currencies. Volvo Car Group expects continued 100 percent effectiveness of related hedges and no net interest impact.

### Commodity price risk management

Commodity price risk is the risk that the cost of materials could increase as a result of rising commodity prices in the global markets. Changes in commodity prices impact Volvo Car Group's cash flow and earnings.

Strategic commodity price risk arises from the procurement mix of commodities and is primarily managed through contracts with suppliers using clauses or similar constructions and fixed prices with suppliers.

*Volvo Car Group Financial Policy Framework*

Forecasted cash flows for the purchasing of commodities for the coming 48 months can be hedged up to 70 per cent with adequate financial instruments. The hedging mandates are proposed by Group Treasury and approved by the CFO. Hedging mandates shall be revised at least quarterly.

*Status at year end*

*Raw materials*

Volvo Car Group manages the risk of changes in raw material prices in highly probable forecasted consumption with forwards and futures contracts. In 2022, Volvo Car Group incurred costs for raw materials of approximately SEK 33,544 (32,450) m. A ten per cent change in the prices of raw materials has an impact on operating income of approximately SEK 2,002 (1,399) m.

*Electricity*

Volvo Cars manages the changes in prices for electricity by using forward contracts. The hedging is performed for electricity usage in the European factories and is managed under an advisory contract. The highly probable forecast transactions in electricity purchase volume for the coming 48 months are hedged.

A ten per cent change in the electricity spot price has an impact on the income statement of SEK 94 (42) m.

### Credit risk management

Volvo Car Group's credit risk can be divided into financial credit risk and commercial credit risk. These risks are described in the following sections.

***Financial counterparty credit risk***

*Volvo Car Group Financial Policy Framework*

Credit risk on financial transactions is the risk that Volvo Car Group will incur losses as a result of non-payment by counterparties related to the Volvo Car Group's bank accounts, investments of cash surplus, bank deposits or derivative transactions. All investments must meet the requirements of low credit risk, high liquidity and the exposure with any single counterparty is limited. All counterparties used for investments and derivative transactions shall have credit rating A- or better from one of the well-established credit rating institutions and ISDA agreements are required for counterparties with which derivative contracts are traded. Limits are established according to counterparty credit rating and limit usage is monitored for the Volvo Car Group's treasury counterparties and deposits are diversified between relationship banks. Subsidiary bank balances are diversified in order to limit credit risk.

*Status at year end*

As of 31 December 2022, the maximum amount exposed to financial credit risk amounts to SEK 70,055 ( 71,254) m. This encompasses cash and cash equivalents SEK 63,743 (62,265) m, marketable securities SEK 3,415 (7,996) m and fair value of outstanding derivative assets SEK 2,897 (993) m. The maximum amount exposed to credit risk for financial instruments is best represented by their fair values, see table Financial instruments by category and measurement level in this note.

Volvo Cars applies the general model for assessing impairment reserve regarding time deposits recognised at amortised cost. The assessment is based on the counterparty´s credit rating, on the estimated exposure at default, probability of default and on the loss given default. The impairment assessment in relation to time deposits is considered immaterial.

Derivative contracts are subject to master netting agreements (ISDA). No collateral has been received or posted. The table below shows derivatives covered by master netting agreements (ISDA).

| Outstanding net position for derivative instruments | Gross | Offset in Balance sheet | Net in Balance sheet | Master netting agreements | Net position |
|---|---|---|---|---|---|
| **31 December 2022** | | | | | |
| Derivative assets | 2,897 | — | 2,897 | –1,693 | 1,204 |
| Derivative liabilities | 2,634 | — | 2,634 | –1,693 | 941 |
| **31 December 2021** | | | | | |
| Derivative assets | 993 | — | 993 | –838 | 155 |
| Derivative liabilities | 2,660 | — | 2,660 | –838 | 1,822 |

### Commercial credit risk

The commercial credit risk arises from accounts receivables. For the risk in customer and dealer financing, the objective is to have a sound and balanced credit portfolio and to engage in credit monitoring by means of detailed procedures which include follow-up and repossession. In cases where the credit risk is considered unsatisfactory a letter of credit or other instruments are used. The maximum amount exposed to commercial credit risk is the carrying amount of accounts receivables, see table for Financial instruments by category and measurement level in this note. For quantification of credit risk in accounts receivable refer to Note 19 – Accounts receivable and other current assets.

## NOTE 21 – MARKETABLE SECURITIES AND CASH AND CASH EQUIVALENTS

### ACCOUNTING POLICIES

***Marketable securities***

Marketable securities are financial instruments that can be immediatly converted into cash. The maturity tends to be less than one year. In Volvo Cars, marketable securities comprise of commercial paper and time deposits with a term of more than three months from acquisition date.

***Cash and cash equivalents***

Cash and cash equivalents consist of cash and bank balances as well as short-term interest-bearing investments in the form of commercial paper and time deposits with a maturity of three months from the date of acquisition and are subject to an insignificant risk of fluctuations in value.

| Marketable securities | 31 Dec 2022 | 31 Dec 2021 |
|---|---|---|
| Time deposits in banks | 2,965 | 6,136 |
| Commercial paper | 450 | 1,860 |
| **Total** | **3,415** | **7,996** |

| Cash and cash equivalents | 31 Dec 2022 | 31 Dec 2021 |
|---|---|---|
| Cash in banks | 39,194 | 39,210 |
| Time deposits in banks | 23,239 | 22,223 |
| Commercial paper | 1,310 | 832 |
| **Total** | **63,743** | **62,265** |

Cash and Cash equivalents includes SEK 6,991 (3,881) m where limitations exist, mainly liquid funds in certain countries where exchange controls or other legal restrictions apply. It is not possible to immediately use the liquid funds in other parts of Volvo Cars, however there is normally no limitation for use in the Group's operation in the respective country.

## NOTE 22 – EQUITY

### ACCOUNTING POLICIES

***Equity***

An equity instrument is any contract that constitutes a residual interest in the net assets of an entity. Volvo Car AB (publ.) had issued preference shares recognised as equity instruments but during October 2021 these preference shares were redeemed. Preference shares are equity instruments as long as fundamental criteria for classification as equity is fulfilled. Preference shares have a preferential status compared to common shares, in terms of priority to dividends and priority to net assets in case of a liquidation. However, preference shares are subordinated to financial liabilities.

***Share-based payments***

Equity-settled share-based payments in connection with employee incentive plans are recognised in equity. See Note 8 – Employees and remuneration for more information.

***Group contributions and unconditional shareholders' contributions***

Distributed group contributions to the main owner are recorded in equity, along with the tax effect. Group contributions received from the main owner and the tax effect on these contributions are recognised in equity in accordance with the principles for shareholders' contributions.

Unconditional shareholders' contributions received from the main owner are recognised in equity.

### CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

Volvo Car Group had issued convertible preference shares and during October 2021 Volvo Cars exercised its call option and the preference shares were redeemed. Based on the fact, there were no unconditional obligation for Volvo Car Group to make any payments to the investors during the contract period, hence the instruments were classified as equity instruments.

The preference shares constituted equity instruments, since payment of dividends was subject to a decision by a general meeting of the shareholders and a possible redemption (exercising of an embedded call option) of preference shares is on Volvo Car AB's (publ.) initiative. Thus, it is discretionary for the company whether payment of dividends or redemption of these preference shares occurs, and consequently no contractual obligation exists to pay out funds. When the conversion of preference shares into ordinary shares occurred, the conversion ratio on Volvo Car Group level was fixed. The conversion of preference shares to ordinary shares was subject to a decision by the annual general meeting.

**The share capital** consists of 2,979,524,179 common shares of class B. Each share carries one vote. A common share of class B entitles its holder to a dividend that is determined, if one is declared. All issued shares are fully paid.

In 2019, a directed new issue of 1,138,794 convertible preference shares was made, whereby SEK 5,011 m (reduced by transaction costs) was added to equity of Volvo Car Group. During 2021 the preference shares were redeemed.

In 2021, Volvo Car AB (publ.) was listed on the Nasdaq Stockholm, first day of trading was 29th of October. A new issue of 377,358,490 common shares of class B, at subscription price of SEK 53 per share, was made whereby SEK 20,000 m (reduced by transaction costs) was added to equity of Volvo Car Group.

A directed new issue to preference shareholders of 100,443,786 common shares of class B was made, whereby SEK 5,324 m was added to equity of Volvo Car Group.

As part of the listing a conversion of 12,735,850 common shares of class A to 12,735,850 common shares of class B on a 1:1 basis was made. At the same time a split of common shares of class A and B on a 50:1 was carried out. After the share split, an additional conversion of 1,863,207,500 common shares of class A to 1,863,207,500 common shares of class B on a 1:1 basis was made.

In connection with the listing of the common shares of class B on Nasdaq, Stockholm, shares held in Volvo Car Corporation by a number of current and former members of the EMT and the Board as a consequence of their private investments under a previous investment programme in Volvo Car Corporation was exchanged for 1,721,903 common shares of class B in Volvo Car AB (publ.) through an issue in kind.

| Change in number of outstanding shares | 31 Dec 2022 | 31 Dec 2021 |
|---|---|---|
| Outstanding shares at 1 January | 2,979,524,179 | 51,138,794 |
| Redemption of preference shares | — | –1,138,794 |
| Share split | — | 2,450,000,000 |
| New issue | — | 377,358,490 |
| Issue in kind | — | 1,721,903 |
| Directed new issue to preference shareholders | — | 100,443,786 |
| **Outstanding shares at 31 December** | **2,979,524,179** | **2,979,524,179** |

**The share premium** relates to issue in kind attributable to Zhejiang Geely Holding Group Co., Ltd's acquisition in year 2010. Share premium also include capital received (reduced by transaction costs) in excess of par value of issued capital.

**Other contributed capital** consists of Group contributions from Geely Sweden Holding Group and unconditional shareholders' contribution from Shanghai Geely Zhaoyuan International Investment Co., Ltd.

**The currency translation reserve** comprises exchange rate differences of hedge instruments of net investments in foreign operations and exchange rate differences resulting from the translation of financial reports of foreign operations that have prepared their financial reports in a currency other than Volvo Car Group's reporting currency. The parent company and Volvo Car Group present their financial reports in SEK.

**The other reserve** consists of the change in fair value of cash flow hedging instruments in cases where hedge accounting is applied.

**Retained earnings** comprises net income for the year and preceding years as well as remeasurements of post-employment benefits and equity-settled share-based payments. Retained earnings also include the effects of business combinations under common control within the Geely group, transaction with non-controlling interests and dividend to shareholders.

**Share capital trend**

| Month | Year | Event | Change in number of shares | Total number of authorised shares | Par value per share, SEK | Change in share capital, SEK | Total share capital, SEK |
|---|---|---|---|---|---|---|---|
| 06 | 2010 | Start date | 100,000 | 100,000 | 1.00 | 100,000 | 100,000 |
| 05 | 2016 | Bonus issue | — | 100,000 | 5.00 | 400,000 | 500,000 |
| 12 | 2016 | Split | 400,000 | 500,000 | 1.00 | — | 500,000 |
| 12 | 2016 | Bonus issue | 49,500,000 | 50,000,000 | 1.00 | 49,500,000 | 50,000,000 |
| 12 | 2016 | Directed new issue of preference shares | 500,000 | 50,500,000 | 1.00 | 500,000 | 50,500,000 |
| 12 | 2019 | Redemption of preference shares | –500,000 | 50,000,000 | 1.00 | –500,000 | 50,000,000 |
| 12 | 2019 | Directed new issue of preference shares | 1,138,794 | 51,138,794 | 1.00 | 1,138,794 | 51,138,794 |
| 10 | 2021 | Redemption of preference shares | –1,138,794 | 50,000,000 | 1.00 | –1,138,794 | 50,000,000 |
| 10 | 2021 | Bonus issue | — | 50,000,000 | 1.02 | 1,138,794 | 51,138,794 |
| 10 | 2021 | Conversion of common shares of class A to common shares of class B | — | 50,000,000 | 1.02 | — | 51,138,794 |
| 10 | 2021 | Share split | 2,450,000,000 | 2,500,000,000 | 0.02 | — | 51,138,794 |
| 10 | 2021 | New issue | 377,358,490 | 2,877,358,490 | 0.02 | 7,719,063 | 58,857,857 |
| 10 | 2021 | Issue in kind | 1,721,903 | 2,879,080,393 | 0.02 | 35,222 | 58,893,079 |
| 10 | 2021 | Directed new issue to preference shareholders | 100,443,786 | 2,979,524,179 | 0.02 | 2,054,630 | 60,947,709 |
| 10 | 2021 | Conversion of common shares of class A to common shares of class B | — | 2,979,524,179 | 0.02 | — | 60,947,709 |

**Non-controlling interests** mainly refers to the share of equity that belongs to Zhejiang Geely Holding Group Co., Ltd without a controlling influence. Volvo Car Group holds 50 per cent of the equity in the following companies; Daqing Volvo Car Manufacturing Co., Ltd, Shanghai Volvo Car Research and Development Co., Ltd and up until end of January 2022, Zhangjiakou Volvo Car Engine Manufacturing Co., Ltd and has the decision-making power over the operation. In the consolidated financial statements, these companies are classified as subsidiaries and fully consolidated with a non-controlling interest of 50 per cent.

In January 2022, Volvo Car Group divested its 50 per cent shareholding in Zhangjiakou Volvo Car Engine Manufacturing Co., Ltd, resulting in a divestment of non-controlling interest of SEK – 1,245 m. For further information, see Note 31 - Business combinations and divestments.

The non-controlling interest decreased during the year 2022 due to dividend paid of SEK 840 (9,199) m from Daqing Volvo Car Manufacturing Co., Ltd, SEK 6 (—) m from Shanghai Volvo Car Research and Development Co., Ltd and SEK — (492) m from Zhangjiakou Volvo Car Engine Manufacturing Co., Ltd to its shareholder Zhejiang Geely Holding Group Co., Ltd.

In July 2022, Volvo Car Group acquired the 21 per cent non-controlling interest in PSINV AB, resulting in a divestment of non-controlling interest of SEK –37 m. In December 2022, 13.5 per cent non-controlling interest in Zenseact AB was acquired by Volvo Car Group, resulting in a divestment of non-controlling interest of SEK –432 m.

The non-controlling interest increased through a capital contribution to HaleyTek AB of SEK 17 (360) m from ECARX Technology Co., Ltd and through a direct share issue in Zenseact AB of SEK — (907) m to ECARX Technology Co., Ltd.

In September 2021, the wholly-owned subsidiary Volvo Car Retail AB acquired the 50 per cent non-controlling interest in Bra Bil Sverige AB, resulting in a divestment of non-controlling interests of SEK –228 m. In year 2021 Bra Bil Sverige AB paid dividend of SEK 17 m to its shareholders.

At year end 2022, non-controlling interests amounted to SEK 3,331 (4,327[1]) m. Summarised financial information on subsidiaries with non-controlling interest is presented in Note 8 – Participation in subsidiaries (Parent company).

**Total equity** consists of the equity attributable to the owners of the parent company and non-controlling interests. At year-end 2022, the total equity amounted to SEK 117,278 (94,512[1]) m.

1) Adjustments have been made to the prior period presented. For further information, see Note 10 – Government grants.

## NOTE 23 – POST EMPLOYMENT BENEFITS

### ACCOUNTING POLICIES

***Pension benefits***

Volvo Car Group has various schemes for post-employment benefits, mainly relating to pension plans. Other benefits can in some locations include disability, life insurance and health benefits. Pension plans are classified either as defined contribution plans or defined benefit plans. Volvo Car Group has both defined contribution plans and defined benefit plans for qualifying employees in some subsidiaries and the largest plans are in Sweden and Belgium.

Under a defined contribution plan, Volvo Car Group pays fixed contributions into a separate external legal entity and will have no legal obligation to pay further contributions if the fund does not hold sufficient assets to pay all employee benefits. The contributions are recognised as employee benefit expenses in the income statement when earned by the employee. Some defined contribution plans combine the promise to make periodic payments with a promise of a guaranteed minimum return on investments. Such plans are accounted for as defined benefit plans.

A defined benefit plan is a pension plan that defines the amount of post-employment benefits an employee will receive upon retirement, usually dependent on one or more factors such as age, years of service and compensation. For funded defined benefits plans, plan assets have been separated, with the majority invested in pension foundations. The net pension provision or asset recognised in the balance sheet in respect of defined benefit pension plans is the present value of the defined benefit obligation at the balance sheet date less the fair value of plan assets.

The calculation of the present value of defined benefit pension obligations is performed according to the Projected Unit Credit method. The calculation is performed by independent actuaries. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds, or when these are not available, government bonds that are denominated in the currency in which the benefits will be paid, and that have terms to maturity approximating to the terms of the related pension liability. The discount rate for the Swedish pension obligation is determined by reference to mortgage bonds. The most important actuarial assumptions are stated below.

Actuarial gains and losses arising from changes in actuarial assumptions and adjustments based on experience are charged or credited to other consolidated comprehensive income in the period in which they arise. Past service costs are recognised immediately in the income statement when the settlement occurs.

The net interest cost is calculated by applying the discount rate to the net balance of the defined benefit obligation and the fair value of plan assets.

### *Termination benefits*

Termination benefits are payable when employment is terminated by Volvo Car Group before the normal retirement date, or whenever an employee accepts voluntary redundancy in exchange for these benefits. Volvo Cars recognises termination benefits at the earlier of the following dates: (a) when Volvo Cars can no longer withdraw the offer of those benefits and (b) when the entity recognises costs for a restructuring that involves payment of termination benefits.

## CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

The value of defined benefit obligations is determined through actuarial calculations performed by independent actuaries. The calculations are based on different assumptions and estimates, for instance with regards to the discount rate, future salary increases, inflation, mortality rates and demographic conditions. Changes in these assumptions affect the calculated value of the post-employee benefits obligations. The discount rate, which is the most critical assumption, is based on market return on high-quality corporate or government bonds that are denominated in the currency in which the benefits will be paid and with maturities corresponding to the related pension liability. The discount rate for the Swedish pension obligation is determined by reference to mortgage bonds. A decrease in the discount rate increases the present value of post-employee benefits obligations while an increase in the discount rate has the opposite effect.

Description of the substantial pension schemes within Volvo Car Group is presented below.

### *Sweden*

In Sweden, Volvo Car Group has seven retirement plans of which four are funded. The largest plan overall is the Swedish ITP 2 plan which is a collectively agreed pension plan for white collar employees. ITP 2 is a final salary-based plan. Volvo Car Group's defined benefit plans are secured in three ways: as a provision in the balance sheet, assets held in separate pension funds or funded through insurance payments. The "funded through insurance payments" plans are defined benefit plans accounted for as defined contribution plans. In Sweden, these plans are secured with the mutual insurance company Alecta.

The portion secured through insurance with Alecta refers to a defined benefit plan that comprises several employers and is reported according to a pronouncement by the Swedish Financial Reporting Board, UFR 10. For 2022, Volvo Car Group did not have access to the information to report its proportionate share of the plan's obligations, assets under management and cost, that would make it possible to report this plan as a defined benefit plan. Volvo Cars estimates payments of premiums of about SEK 152 m to Alecta in 2023. Volvo Car Group's share of the total saving premiums for ITP2 in Alecta as at 31 December 2022 amounted to 0.29 (0.32) per cent and Volvo Car Group's share of the total number of active policy holders amounted to 1.43 (1.42) per cent.

The collective consolidation level comprises the market value of Alecta's assets as a percentage of the insurance obligations calculated in accordance with Alecta's actuarial methods and assumptions, which do not conform to IAS 19. The collective funding ratio is normally allowed to vary between 125 and 175 per cent. If the consolidation level falls short or exceeds the normal interval one measure may be to increase the contract price for new subscriptions and expanding existing benefits or introduce premium reductions. At year end 2022, the consolidation level amounted to 172 (172) per cent.

In case local legal requirements exist, funded or unfunded plans are credit insured with an external party.

### *Belgium*

In Belgium, Volvo Car Group has three retirement – indemnity plans which are all funded. All three are based on the Collective Labour Agreement applicable to the company. The pension plan for white collar employees and the closed plan for blue collar employees who were in service before 2009 are defined benefit plans. The benefits are based on the final salary and seniority within the company. The pension plan for blue collars who are in service as from 2009 is a cash balance plan. The pension obligations are secured through a transfer of the required funds to a separate pension fund. The funding of the obligations under these defined benefit and cash balance plans is fully externalised through a number of pension funds and through insurance contracts.

In Belgium, Volvo Car Group also has early retirement arrangements (termination benefits – bridge plans) as well as seniority premiums (other long-term benefits). The early retirement arrangements are unfunded and the seniority premiums are funded.

### *Summary of provision for post-employment benefits*

The provision for post-employment benefits have been recognised in the balance sheet as follows:

| | 31 Dec 2022 | 31 Dec 2021 |
|---|---|---|
| Post-employment benefits | 6,883 | 11,961 |
| Other provisions (Note 24) | 352 | 395 |
| **Closing balance** | **7,235** | **12,356** |

The tables below show Volvo Car Group's provision for post employment benefits, the assumptions used to calculate the value of these provisions and the plan assets related to these provisions, as well as the amounts recognised in the income statement. Volvo Car Group's reported pension provision amounts to SEK 7,235 (12,356) m in total, which includes endowment insurances and similar undertakings amounting to SEK 352 (395) m in respect of defined premium pension plans in Sweden.

| | Total | of which Sweden | of which Belgium | Total | of which Sweden | of which Belgium |
|---|---|---|---|---|---|---|
| **Financial year ending on** | **31 Dec 2022** | **31 Dec 2022** | **31 Dec 2022** | 31 Dec 2021 | 31 Dec 2021 | 31 Dec 2021 |
| **Amounts recognised in the statement of financial position** | | | | | | |
| Defined benefit obligation | 22,221 | 15,341 | 4,049 | 28,167 | 19,891 | 4,266 |
| Fair value of plan assets | 15,338 | 9,913 | 3,432 | 16,206 | 9,760 | 3,379 |
| **Funded status** | **6,883** | **5,428** | **617** | **11,961** | **10,131** | **887** |
| **Net provision (asset) as recorded in the balance sheets** | **6,883** | **5,428** | **617** | **11,961** | **10,131** | **887** |
| **Principal actuarial assumptions** | | | | | | |
| *Weighted average assumptions to determine benefit obligations* | | | | | | |
| Discount rate, % | 4.07 | 3.95 | 4.12 | 1.84 | 2.00 | 1.10 |
| Rate of salary increase, % | 3.34 | 3.40 | 3.16 | 3.10 | 3.15 | 2.91 |
| Rate of price inflation, % | 2.08 | 2.00 | 2.00 | 1.88 | 1.75 | 1.75 |
| Rate of pension indexation, % | 2.07 | 2.00 | N/A | 1.89 | 1.75 | N/A |

The actuarial assumptions are the most significant assumptions applied when calculating the value of a defined benefit pension plan. Volvo Car Group determines the discount rate based on AA-rated corporate bonds and mortgage bonds that match the duration of the obligations. If no such corporate bonds and mortgage bonds are available, government bonds are used.

Inflation assumptions are based on a combination of central banks targets, implicit market expectations and long-term analyst forecasts.

Assumptions regarding future mortality are set based on actuarial advice in accordance with published statistics and experience in each territory. Mortality assumptions for Sweden are based on the DUS21 (white collar) mortality study, and the DUS21 (white collar) mortality table is generational. Mortality assumptions in Belgium are not as significant, since there are lump sum payments .

The actuarial assumptions are reviewed annually by Volvo Car Group and modified when deemed appropriate to do so.

CONSOLIDATED FINANCIAL STATEMENTS

| | Total | of which Sweden | of which Belgium | Total | of which Sweden | of which Belgium |
|---|---|---|---|---|---|---|
| **Financial year ending on** | **31 Dec 2022** | **31 Dec 2022** | **31 Dec 2022** | 31 Dec 2021 | 31 Dec 2021 | 31 Dec 2021 |
| **Change in defined benefit obligation** | | | | | | |
| Defined benefit obligation at end of prior year | 28,167 | 19,891 | 4,266 | 29,093 | 20,912 | 4,297 |
| Service cost | 747 | 518 | 166 | 1,103 | 867 | 176 |
| Interest expense | 512 | 394 | 46 | 389 | 304 | 31 |
| Cash flows | –753 | –357 | –138 | –566 | –326 | –89 |
| Increase due to effect of business combination | — | — | — | 201 | 201 | — |
| Remeasurements | –6,965 | –5,105 | –606 | –2,479 | –2,067 | –261 |
| Effect of changes in foreign exchange rates | 513 | — | 315 | 426 | — | 112 |
| **Defined benefit obligation at end of year** | **22,221** | **15,341** | **4,049** | **28,167** | **19,891** | **4,266** |
| **Change in fair value of plan assets** | | | | | | |
| Fair value of plan assets at end of prior year | 16,206 | 9,760 | 3,379 | 14,906 | 9,239 | 3,116 |
| Interest income | 303 | 205 | 38 | 198 | 134 | 24 |
| Cash flows | 882 | 1,000 | 62 | 98 | 91 | 83 |
| Remeasurements | –2,443 | –1,052 | –308 | 652 | 296 | 70 |
| Effect of changes in foreign exchange rates | 390 | — | 261 | 352 | — | 86 |
| **Fair value of plan assets at end of year** | **15,338** | **9,913** | **3,432** | **16,206** | **9,760** | **3,379** |
| **Components of defined pension cost** | | | | | | |
| Service cost | 747 | 518 | 166 | 1,103 | 867 | 176 |
| Net interest cost | 209 | 189 | 7 | 191 | 170 | 7 |
| Remeasurements of Other long term benefits | 41 | — | 41 | –3 | — | –3 |
| Administrative expenses and taxes | 24 | — | 21 | 24 | — | 21 |
| **Total pension cost for defined benefit plans** | **1,021** | **707** | **235** | **1,315** | **1,037** | **201** |
| Pension cost for defined contribution plans | 3,768 | 3,041 | 342 | 3,423 | 2,866 | 268 |
| **Total pension cost recognised in P&L** | **4,789** | **3,748** | **577** | **4,738** | **3,903** | **469** |
| Remeasurements (recognised in other comprehensive income) | –4,560 | –4,053 | –337 | –3,123 | –2,363 | –331 |
| Effect of changes in demographic assumptions | 378 | 379 | — | –4 | — | — |
| Effect of changes in financial assumptions | –8,079 | –5,638 | –1,066 | –2,087 | –1,814 | –164 |
| Effect of experience adjustments | 695 | 154 | 420 | –384 | –253 | –94 |
| Return on plan assets (excluding interest income) | 2,446 | 1,052 | 309 | –648 | –296 | –73 |
| **Total defined benefit cost recognised in P&L and OCI** | **–3,539** | **–3,346** | **–102** | **–1,808** | **–1,326** | **–130** |

| Financial year ending on | Total 31 Dec 2022 | of which Sweden 31 Dec 2022 | of which Belgium 31 Dec 2022 | Total 31 Dec 2021 | of which Sweden 31 Dec 2021 | of which Belgium 31 Dec 2021 |
|---|---|---|---|---|---|---|
| **Net defined benefit provision (asset) reconciliation** | | | | | | |
| Net defined benefit provision (asset) | 11,961 | 10,131 | 887 | 14,187 | 11,673 | 1,181 |
| Defined benefit cost included in the income statement | 1,021 | 707 | 235 | 1,315 | 1,037 | 201 |
| Total remeasurements included in OCI | –4,560 | –4,053 | –337 | –3,123 | –2,363 | –331 |
| Effect of business combinations | — | — | — | 201 | 201 | — |
| Cash flows | –1,661 | –1,357 | –222 | –692 | –417 | –190 |
| Employer contributions | –1,225 | –1,000 | –184 | –293 | –91 | –159 |
| Employer direct benefit payments | –436 | –357 | –38 | –399 | –326 | –31 |
| Effect of changes in foreign exchange rates | 122 | — | 54 | 73 | — | 26 |
| **Net defined benefit provision (asset) as of end of year** | **6,883** | **5,428** | **617** | **11,961** | **10,131** | **887** |
| **Defined benefit obligation by participant status** | | | | | | |
| Actives | 11,189 | 7,174 | 3,325 | 15,538 | 11,139 | 3,521 |
| Vested deferreds | 4,928 | 3,533 | 532 | 6,356 | 4,350 | 569 |
| Retirees | 6,104 | 4,634 | 192 | 6,273 | 4,402 | 176 |
| **Total** | **22,221** | **15,341** | **4,049** | **28,167** | **19,891** | **4,266** |

### *Plan assets*

| Fair value of plan assets | 2022 | 2021 | Of which with a quoted market price 2022 | Of which with a quoted market price 2021 |
|---|---|---|---|---|
| Cash and cash equivalents | 331 | 511 | 113 | 260 |
| Equity instruments | 1,034 | 2,172 | 664 | 1,208 |
| Debt instruments | 7,000 | 7,387 | 6,429 | 6,206 |
| Real estate | 577 | 11 | 13 | 11 |
| Investment funds | 4,306 | 4,247 | 4,306 | 4,244 |
| Other | 2,090 | 1,878 | 1,860 | 1,811 |
| **Total** | **15,338** | **16,206** | **13,385** | **13,740** |

Responsibility for the management of several pension plans rest with Volvo Car Group and therefore pension trusts have been set up in different countries. The assets are held by long-term employee benefit trusts that are legally separated from Volvo Car Group. The assets are available to fund employee benefits only. Sweden, Belgium and United Kingdom have the largest pension trusts. The assets of the pension trusts are managed in accordance with a capital preservation strategy where the risk exposure is adjusted accordingly. The investment strategies are long term and the distribution of assets ensures that investment portfolios are well diversified. The capital is managed in accordance with the investment policies of each pension trust. Continuous monitoring is performed by the trustees to ensure that capital is allocated and managed according to the investment policies. In Sweden the minimum funding level is decided by PRI Pensionsgaranti.

The actual return on plan assets amounts to SEK –2,140 (851) m.

### Risks

There are mainly three categories of risks related to defined benefit obligations and pension plans. The first category relates to risks affecting the actual pension payments. Increased longevity and inflation of salary and pensions are the principal risks that may increase the future pension payments and hence, increase the pension obligation. The second category relates to investment return. Pension plan assets are invested in a variety of financial instruments and are exposed to market fluctuations. Poor investment return may reduce the value of investments and render them insufficient to cover future pension payments. The final category relates to the discount rate used for measuring the obligation and the plan assets. The discount rate used for measuring the present value of the obligation may fluctuate which impacts the valuation of the defined benefit obligation. The discount rate also impacts the value of the interest income and expense that is reported in the financial items and the service cost. The risk related to pension obligations, i.e. mortality exposure, discount rate and inflation, are monitored on an ongoing basis.

| Sensitivity analysis on defined benefit obligation | Sweden | Belgium |
|---|---|---|
| Discount rate +0.5% | –1,383 | –147 |
| Discount rate –0.5% | 1,534 | 160 |
| Inflation rate +0.5 % | 1,534 | 108 |
| Inflation rate –0.5% | –1,383 | –102 |

The weighted average duration of the obligation is 19 years for Sweden and 7.6 years for Belgium.

## NOTE 24 – CURRENT AND OTHER NON–CURRENT PROVISIONS

### ACCOUNTING POLICIES

***Provisions***

Provisions are recognised in the balance sheet when a legal or constructive obligation exists as a result of a past event, and it is deemed more likely than not that an outflow of resources will be required to settle the obligation and the amount can be reliably estimated. Provisions are typically settled within 2–3 years.

**Warranties**

Warranty provisions include Volvo Car Group's cost of satisfying the customers with specific contractual warranties, as well as other costs not covered by standard contractual commitments. All warranty provisions are recognised at the sale of the vehicles or spare parts. The initial calculations of the reserves are based on historical warranty statistics considering known quality improvements, costs for remedy of defaults etc. The warranty provision booked at point of sale is adjusted as campaign decisions for specific quality problems are made. On a quarterly basis the provisions are adjusted to reflect latest available data such as actual spend, exchange rates, discount rates etc. The provisions are reduced by virtually certain warranty reimbursements from suppliers. Generally warranty provisions are settled within 2–4 years, provisions for battery warranties are typically settled within 8 years.

### CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

***Provisions***

The amount recognised as provision is the best estimate of the expenditure required to settle the present obligation at the balance sheet date. Provisions are regularly reviewed and adjusted as further information becomes available or circumstances change. If the effect of the time value of money is material, non-current provisions are recognised at present value by discounting the expected future cash flows at a pre-tax rate reflecting current market assessments of the time value of money. The discount rate does not reflect such risks that are taken into consideration in the estimated future cash flow. Revisions of estimated cash flows (both amount and likelihood) are recognised as operating cost. Changes to present value due to the passage of time and revisions of discount rates to reflect prevailing current market conditions are recognised as a financial cost.

There is always a risk for changing governmental regulations and changes in environmental policies affecting our business as well as accounting estimates and judgements related to climate regulation. Based on our performance to date, current product and volume plans and current knowledge of global emissions regulations, Volvo Car Group does not foresee any significant financial risks or judgmental accounting issues short to mid-term related to not meeting global, regional or national $CO_2$ emissions regulations.

**Warranties**

The recognition and measurement of provisions for product warranties is generally connected with estimates. Estimated costs for product warranties are charged to cost of sales when the products are sold. Estimated warranty costs include contractual warranty, warranty campaigns (recalls and buy-backs) and coverage in excess of contractual warranty or campaigns, which is accepted as a matter of policy or normal practice in order to maintain a good business relation with the customer. Warranty provisions are estimated based on historical claims statistics and the warranty period. Quality index improvements based on historical patterns have been reflected in all categories of warranty. Refunds from suppliers that decrease Volvo Car Group's warranty costs are recognised to the extent these are considered to be virtually certain, based on historical experience. This year supplier recovery provisions amount to SEK 1,853 m.

| | Warranties | Other provisions | **Total** |
|---|---|---|---|
| **Balance at 1 January 2021** | **12,022** | **4,663** | **16,685** |
| Provided for during the year[1] | 7,067 | 7,058 | **14,125** |
| Utilised during the year[1] | –6,171 | –5,671 | **–11,842** |
| Reversal of unutilised amounts | –2,495 | –89 | **–2,584** |
| Translation differences and other | 664 | 182 | **846** |
| **Balance at 31 December 2021** | **11,087** | **6,143** | **17,230** |
| Of which current | 3,615 | 4,992 | **8,607** |
| Of which non-current | 7,472 | 1,151 | **8,623** |

| | Warranties | Other provisions | **Total** |
|---|---|---|---|
| **Balance at 1 January 2022** | **11,087** | **6,143** | **17,230** |
| Provided for during the year | 9,378 | 5,414 | **14,792** |
| Utilised during the year | –6,917 | –5,630 | **–12,547** |
| Reversal of unutilised amounts | –2,796 | –171 | **–2,967** |
| Translation differences and other | 742 | 199 | **941** |
| **Balance at 31 December 2022** | **11,494** | **5,955** | **17,449** |
| Of which current | 4,224 | 4,827 | **9,051** |
| Of which non-current | 7,270 | 1,128 | **8,398** |

1) The 2021 figures have been adjusted to reflect reclassifications of items within the warranty provision, this reclassification has no impact on the opening or ending balances.

## NOTE 25 – CURRENT AND NON–CURRENT CONTRACT LIABILITIES TO CUSTOMERS

### ACCOUNTING POLICIES

Contract liabilities to customers are obligations related to contracts with customers. The amounts include transactions where Volvo Cars either;

- Has an obligation to transfer goods or services to the customer for which Volvo Car Group has received consideration (or an amount of consideration is due) from the customer. This applies to sales with repurchase commitment (recognised as an operating lease), sales related to extended service as well as advance payments from customers.
- Has transferred goods or services to the customer but a variable consideration or a consideration payable, such as a discount, is not yet to be paid out or settled by Volvo Cars.

The contract liability is derecognised, and revenue is recognised, when the good or service is transferred to the customer and the performance obligation is satisfied. The contract liability is derecognised against cash and cash equivalent when it pays out or settles the variable consideration or consideration payable.

| | Sales generated obligations | Deferred revenue – extended service business | Deferred revenue – sale with repurchase commitment | Advance payments from customers | Total |
|---|---|---|---|---|---|
| **Balance at 1 January 2021** | **18,360** | **4,780** | **1,720** | **2,612** | **27,472** |
| Provided for during the year | 44,684 | 3,559 | 4,903 | 100,065 | **153,211** |
| Utilised during the year | –45,654 | –2,720 | –5,151 | –99,446 | **–152,971** |
| Translation differences and other | 1,613 | 335 | 63 | 173 | **2,184** |
| **Balance at 31 December 2021** | **19,003** | **5,954** | **1,535** | **3,404** | **29,896** |
| | | | | | |
| Of which current | 15,995 | 2,248 | 1,284 | 3,402 | 22,929 |
| Of which non-current | 3,008 | 3,706 | 251 | 2 | 6,967 |
| | | | | | |
| **Balance at 1 January 2022** | **19,003** | **5,954** | **1,535** | **3,404** | **29,896** |
| Provided for during the year | 46,022 | 7,175 | 1,272 | 101,438 | **155,907** |
| Utilised during the year | –45,457 | –6,030 | –1,403 | –101,965 | **–154,855** |
| Translation differences and other | 1,563 | 525 | 8 | 194 | **2,290** |
| **Balance at 31 December 2022** | **21,131** | **7,624** | **1,412** | **3,071** | **33,238** |
| | | | | | |
| Of which current | 19,199 | 2,620 | 1,205 | 3,070 | 26,094 |
| Of which non-current | 1,932 | 5,004 | 207 | 1 | 7,144 |

***Sales generated obligations***
Sales generated obligations refer to all variable marketing programmes not effectuated on the balance sheet date, including discounts and residual value guarantees.

***Deferred revenue – extended service business***
Volvo Car Group offers on some markets service contracts to customers, normally referred to Extended Service Business where the customer signs up for regular services paid for upfront.

***Deferred revenue – sale with repurchase commitment***
Deferred revenue – sale with repurchase commitment, is recognised as an operating lease contract, where the revenue is recognised over the contract period.

***Advance payments from customers***
Advance payments from customers refer to payments related to customer contracts where Volvo Car Group has received a payment in advance of transfer of control over the product or service.

## NOTE 26 – OTHER NON–CURRENT LIABILITIES

| | 31 Dec 2022 | 31 Dec 2021 |
|---|---|---|
| Liabilities related to repurchase commitments | 695 | 1,354 |
| Other liabilities[1] | 4,031 | 4,685 |
| **Total** | **4,726** | **6,039** |

1) The internal profit elimination related to sale of licences and technology to Polestar amounted to SEK 2,365 (2,596) m.

## NOTE 27 – OTHER CURRENT LIABILITIES

| | 31 Dec 2022 | 31 Dec 2021 |
|---|---|---|
| Accrued expenses and prepaid income | 18,348 | 13,907 |
| Liabilities related to repurchase commitments | 6,042 | 7,754 |
| Personnel related liabilities | 6,719 | 6,142 |
| VAT liabilities | 3,427 | 3,016 |
| Other liabilities | 3,154 | 3,705 |
| **Total** | **37,690** | **34,524** |

## NOTE 28 – PLEDGED ASSETS

| | 31 Dec 2022 | 31 Dec 2021 |
|---|---|---|
| Restricted cash | 799 | 141 |
| Inventory | 332 | 303 |
| Floating charges | 108 | 253 |
| Other pledged assets | 399 | 788 |
| **Total** | **1,638** | **1,485** |

## NOTE 29 – CONTINGENT LIABILITIES

### ACCOUNTING POLICIES

When a possible obligation does not meet the criteria for recognition as a liability it may be disclosed as a contingent liability. These possible obligations derive from past events and their existence will be confirmed only when one or several uncertain future events, which are not entirely within Volvo Car Group's control, take place or fail to take place. A contingent liability could also exist for a present obligation, due to a past event, where an outflow of resources is less likely (<50 per cent) or when the amount of the obligation cannot be reliably measured.

### CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

***Legal proceedings***

Companies within Volvo Car Group may at times be involved in legal proceedings. Such proceedings may cover a range of different matters in various jurisdictions. These include, but are not limited to, commercial disputes such as alleged breach of contract, insufficient supplies of goods or services, product liability, patent infringement or infringement of other intangible rights. The various matters raised are often of a difficult and complex nature and often legally complicated. The number of class action litigations is increasing and they are expensive and time consuming to defend. It is therefore difficult to predict the final outcome of such matters. The companies within Volvo Car Group work closely with legal advisors and other experts in the various matters in each jurisdiction. A provision is made when it is determined that an adverse outcome is more likely than not and the amount of the loss can be reliably estimated. In instances where these criteria are not met, a contingent liability has been disclosed provided the risk qualifies as such a liability.

***Other processes***

Volvo Car Group is as well, like other global companies, from time to time involved in processes of varying scope and in various stages with regards to for instance import duties and transfer prices. These processes are evaluated regularly and provisions are made when it is more likely than not that additional fees must be paid and the outcome can be reliably estimated. If it is not probable that the additional fees will be paid but the risk is more than remote, such amounts are disclosed as contingent liabilities.

| | 31 Dec 2022 | 31 Dec 2021 |
|---|---|---|
| Guarantees to insurance company FPG | 224 | 180 |
| Other claims[1] | 21 | 21 |
| Guarantee commitments | 34 | 59 |
| Other contingent liabilities[2] | 466 | 284 |
| **Total** | **745** | **544** |

1) In addition to the contingent liabilities related to other claims there is also tax related contingent asset amounting to SEK 71 (53) m.
2) Apart from the above contingent liabilities, there are other commitments and guarantees that are not recognised since the likelihood of an outflow of resources is very low.

## NOTE 30 – CASH FLOW STATEMENTS

| | 2022 | 2021 |
|---|---|---|
| **Adjustments for other non-cash items:** | | |
| Capital gains/losses on sale of tangible and intangible assets | 1,142 | 5,263 |
| Share of income in joint ventures and associates | –4,443 | 951 |
| Interest effect from the measurement of repurchase obligations | –235 | –158 |
| Provision for variable pay | 1,196 | 2,239 |
| Other provisions | 1,137 | –1,818 |
| Deferred revenue | –864 | –2,779 |
| Reclassification of residual value guarantee | –2,687 | –728 |
| Distribution of parts of the ICE business | — | –2,074 |
| Inventory impairment | –159 | –149 |
| Elimination of intra-group profit | 235 | 794 |
| IFRS16 adjustments | –1,594 | –890 |
| Assets held for sale | –383 | –257 |
| IPO transaction costs | — | –210 |
| Other non-cash items | –480 | –934 |
| **Total** | **–7,135** | **–750** |

| Change in net cash | 1 Jan 2021 | Cash flows | Non-cash changes: Reclassifi-cations | Foreign exchange movement | Fair value changes | Other non-cash changes | 31 Dec 2021 |
|---|---|---|---|---|---|---|---|
| Cash and cash equivalents | 61,592 | –3,659 | –48 | 4,380 | — | — | 62,265 |
| Marketable securities | 8,087 | –460 | — | 354 | 15 | — | 7,996 |
| Liabilities to credit institutions (non-current) | –5,882 | –895 | 4,401 | –167 | — | — | –2,543 |
| Bonds, non-current[1] | –20,950 | — | 2,999 | –430 | — | –20 | –18,401 |
| Bonds, current | –5,010 | 8,055 | –2,999 | –46 | — | — | — |
| Other interest-bearing non-current liabilities | –84 | 84 | — | — | — | — | — |
| Liabilities to credit institutions (current) | –2,512 | 2,604 | –4,401 | –162 | — | — | –4,471 |
| **Net cash** | **35,241** | **5,729** | **–48** | **3,929** | **15** | **–20** | **44,846** |

| Change in net cash | 1 Jan 2022 | Cash flows | Reclassifi-cations | Foreign exchange movement | Fair value changes | Other non-cash changes | 31 Dec 2022 |
|---|---|---|---|---|---|---|---|
| Cash and cash equivalents | 62,265 | –1,090 | — | 2,568 | — | — | 63,743 |
| Marketable securities | 7,996 | –5,030 | — | 473 | –24 | — | 3,415 |
| Liabilities to credit institutions (non-current) | –2,543 | –511 | 179 | –217 | — | –4 | –3,096 |
| Bonds, non-current[1] | –18,401 | –5,260 | 1,998 | –1,621 | — | 38 | –23,246 |
| Bonds, current | — | — | –1,998 | — | — | –2 | –2,000 |
| Other interest-bearing non-current liabilities | — | — | — | — | — | — | — |
| Liabilities to credit institutions (current) | –4,471 | 3,959 | –179 | –65 | — | 1 | –755 |
| **Net cash** | **44,846** | **–7,932** | **—** | **1,138** | **–24** | **33** | **38,061** |

1) The bonds are presented above at amortised cost. The fair value risk of the EUR-denominated bonds is hedged and the bonds with fixed interest payments have been swapped into floating interest payments. Part of the bonds is therefore measured at fair value through the income statement and the remaining part is measured at amortised cost. On 31 December 2022, the fair value component amounted to SEK –287 (—) m.

## NOTE 31 – BUSINESS COMBINATIONS AND DIVESTMENTS

### ACCOUNTING POLICIES

In a business combination Volvo Car Group measures all acquired identifiable assets and liabilities at fair value. Any surplus amount from the purchase price, possible non-controlling interest and fair value of previously held equity interests at the acquisition date compared to Volvo Car Group's share of acquired net assets is recognised as goodwill. Any deficit amount (bargain purchase), so called negative goodwill, is directly recognised as income in the income statement. In step acquisitions, a business combination occurs only on the date control is achieved. Transactions with non-controlling interest are recognised within equity as long as control of the subsidiary is retained.

All acquisition-related transaction costs are expensed. Companies acquired are consolidated as of the date of acquisition. Companies that have been divested are included in the consolidated financial statements up to and including the date of the divestment.

### CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

One area of critical judgement, relevant to Volvo Car Group is the one of common control, a situation where there is an acquisition between parties under common control. This means the acquired company has the same ultimate parent as the acquiring company. The standard is silent on the subject and Volvo Car Group has therefore made a policy choice when it comes to handle common control transactions. Volvo Car Group has elected to apply predecessor accounting, meaning that the acquirer consolidates the predecessors respective carrying values for assets and liabilities. These are the carrying values that are related to the acquired entity from the consolidated financial statements of the highest entity that has common control, and for which consolidated financial statements are prepared. Any difference between the cost of the combination or the costs of the divestment (i.e. the fair value of the consideration paid or received) and the carrying values for assets and liabilities are recognised directly in equity within retained earnings.

### Divestment under common control

***Zhangjiakou Volvo Car Engine Manufacturing Co., Ltd.***

On 31 December 2021, Volvo Cars (China) Investment Co., Ltd and Zhejiang Geely Holding Group Co., Ltd signed a share transfer agreement with Zhejiang Aurobay Powertrain Co., Ltd. regarding their shareholdings in Zhangjiakou Volvo Car Engine Manufacturing Co., Ltd.

On 31 January 2022, Volvo Car Group finalised the separation of its combustion engine operations and the control of the 50 per cent owned subsidiary Zhangjiakou Volvo Car Engine Manufacturing Co., Ltd. was transferred to the acquirer, the associated company Zhejiang Aurobay Powertrain Co., Ltd (Aurobay), China. Aurobay will be a global supplier of complete powertrain solutions, including next generation combustion engines, transmissions and hybrid solutions.

The divestment is between parties under common control and Volvo Car Group has applied predecessor accounting, see section Critical accounting estimates and judgements.

As part of the divestment, the registered company name has been changed to Zhangjiakou Aurobay Powertrain Manufacturing Co., Ltd.

Volvo Car Group has consolidated the company until 31 January 2022 when control was ceased. The company was classified as Asset held for sale until the date of the divestment.

| | 2022 |
|---|---|
| **Purchase price** | |
| Disposal consideration | –978 |
| **Total disposal consideration** | **–978** |
| | |
| **Disposed assets and liabilities at carrying value** | |
| Intangible assets | –88 |
| Tangible assets | –3,108 |
| Deferred tax assets | –41 |
| Inventories | –542 |
| Other current assets | –26 |
| Cash and cash equivalents | –358 |
| Non-controlling interest | 1,245 |
| Deferred tax liabilities | 107 |
| Other non-current liabilities | 56 |
| Trade payable | 277 |
| Current liabilities | 1,233 |
| **Total carrying value of net assets disposed** | **–1,245** |
| **Deficit of consideration received recognised in Equity** | **267** |
| | |
| **Cash effect on divestment** | |
| Consideration received[1] | 958 |
| Less cash and cash equivalents disposed of | –358 |
| **Change in cash and cash equivalents due to divestment** | **600** |

1) Exchange rate difference between divestment date and payment date of the purchase price payment.

The total cost of divestment and carrying values have been adopted in January 2023.

## Divestment of business

### *Uppsala Retail business and Real estate companies*

On 10 December 2021, Volvo Cars wholly-owned subsidiaries Volvo Personvagnar Norden AB and Volvo Car Retail AB signed an asset and share purchase agreement with an external buyer regarding their shareholdings in Upplands Motor Personvagnar AB and in Upplands Motor Mark KB as well as the entire retail business in Uppsala, near Stockholm, Sweden. The divestment was closed on 1 October 2022. The sold real estate companies own land and buildings in the area of Uppsala.

The divestment is part of Volvo Car Group's strategic decision to restructure its retail business on the Swedish Market.

Volvo Car Group has consolidated the wholly-owned subsidiaries until 1 October 2022 when control was ceased.

The disposal consideration received amounted to SEK 236 m and total cash effect from divestment amounted to SEK 235 m. The carrying value of assets and liabilities as at the date of the divestment were SEK 173 m. Gain on sale of operation recognised in income statement amounted to SEK 63 m.

The total cost of divestment and the carrying values have been determined provisionally, thus, the divestment analyses may be subject to adjustment during a twelve months period.

### *Volvo Car Bern AG*

On 29 April 2022, Volvo Cars wholly-owned subsidiary Volvo Car Switzerland AG signed a share transfer agreement with an external buyer regarding their 100 per cent shareholdings in Volvo Car Bern AG. Volvo Car Bern AG is an authorised Volvo dealer in Switzerland. Volvo Car Group has consolidated the company until 29 April 2022 when control was ceased.

The disposal consideration received amounted to SEK 52 m and total cash effect from divestment amounted to SEK 116 m. The carrying value of assets and liabilities as at the date of the divestment were SEK 5 m. Gain on sale of operation recognised in income statement amounted to SEK 47 m. The total cost of divestment and carrying values have been determined provisionally, thus, the divestment analyses may be subject to adjustment during a twelve month period.

### *Adoption of preliminary acquisition analysis*

An acquistion analysis is preliminary until adopted which must take place within twelve months from the acquisition. The preliminary acquisition analysis previously recognised for Volvo Car Real Estate and Assets 7:24 AB , Fastighetsbolag Sörred 8:11 AB and Asia Euro Automobile Manufacturing (Taizhou) Co., Ltd.  were adopted in 2022.

## NOTE 32 – SEGMENT REPORTING

### ACCOUNTING POLICIES

Operating segments are defined as parts of Volvo Car Group for which separate financial information is available and is evaluated regularly by the Chief operating decision-making body how to allocate resources and in assessing performance.

The automotive business includes all activities related to development, design, manufacturing, assembly and sale of vehicles, as well as sale of related parts and accessories from which Volvo Cars derives its revenues. Volvo Car Group is managed by the Executive management team (EMT) with 7 (11) members, led by the CEO and overseen by the Board of Directors. EMT takes all significant operating decisions and members of EMT have the responsibility for implementation of decisions in their respective areas. The operating decision-making is at EMT level as a whole and Volvo Car Group consider the EMT to be the Chief operating decision-making body. All substantial decisions regarding allocation of resources as well as the assessment of the performance is based on Volvo Car Group as a whole.

### CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

The regional organisation is not considered to constitute reporting segments. The main purpose of the regional organisation is to emphasise the responsibility for the regional market from a sales perspective, with an increased focus on sales with more direct involvement from Group Management. All substantial decisions regarding allocation of resources as well as the assessment of the performance is based on Volvo Car Group as a whole. The allocation of resources is not performed by regions, but rather directly to individual markets. Therefore Volvo Car Group is considered to have only one operating segment.

For further information of the geographic spread of revenue, see Note 2 – Revenue. The geographic spread of non-current assets is disclosed below.

| | Sweden | China | Rest of the world |
|---|---|---|---|
| **31 Dec 2022** | | | |
| Non-current assets | 66% | 13% | 21% |
| **31 Dec 2021** | | | |
| Non-current assets | 65% | 14% | 21% |

# Alternative performance measures presented by Volvo Car Group

The alternative performance measures presented and disclosed in this annual report are used internally by management in conjunction with IFRS measures to measure performance and make decisions regarding the future direction of the business. The Group believes that these alternative performance measures, when provided in combination with reported IFRS measures, provide helpful supplementary information for investors. These alternative performance measures are not a substitute for or superior to IFRS measures and should be used in conjunction with reported IFRS measures. Further, these alternative performance measures, as defined by the Group, may not be comparable to other similarly titled measures used by other groups. For general definitions, see page 205.

**Gross margin**
Gross margin is defined as Gross income as a percentage of revenue. Gross margin presents the per cent of revenue that Volvo Cars retains after incurring the direct costs associated with producing the goods and services sold.

**EBIT**
EBIT is defined as Net income excluding financial income, financial expenses and Income taxes, that is operating income presented in the income statement. EBIT presents the operating income of Volvo Car Group.

**EBIT margin**
EBIT margin is defined as EBIT as a percentage of revenue. The EBIT margin presents the profitability of the operation in relation to the recognised revenue earned by Volvo Car Group during the accounting period.

**EBIT margin excl. share of income from JVs & associates**
EBIT margin excl. share of income from JVs & associates is defined as EBIT less the result from share of income from JVs & associates as a percentage of revenue. The margin presents the profitability of the operation excluding share of income from JVs & associates in relation to the recognised revenue earned by Volvo Car Group during the accounting period.

**EBITDA**
EBITDA is defined as EBIT excluding depreciation and amortisation of non-current assets. EBITDA presents an overview of the profitability of Volvo Car Group operations.

**EBITDA margin**
EBITDA margin is EBITDA as a percentage of revenue. The EBITDA margin presents the profitability of the operation in relation to the recognised revenue earned by the Group during the accounting period.

**Return on invested capital, ROIC**
ROIC is defined as EBIT divided by invested capital. Return on invested capital ratio gives an overview of how efficient Volvo Car Group is at allocating capital to profitable investments. Invested capital is the amount of net assets needed in day to day operations (total assets less receivables on parent company less other long-term securities holding less cash and cash equivalents less marketable securities plus operating cash (average two-year revenue*10%) less total current liabilities less current liabilities to parent company plus total current interest-bearing liabilities (including liabilities to credit institutions, bonds current, other current interest-bearing liabilities) calculated on two-year average figures.

**Equity ratio**
The equity ratio is defined as total equity divided by total assets in the balance sheet. This measures the Volvo Car Group's long-term solvency and financial leverage level.

**Net cash**
Net cash is defined as cash, cash equivalents and marketable securities less liabilities to credit institutions, bonds and other interest-bearing non-current liabilities (excluding non-current lease liabilities). Net cash represents Volvo Car Group's ability to meet its financial obligations.

**Items affecting comparability**
Transactions that are not related to recurring business operations and where the probability of reoccurrence over the coming years is limited.

**Shares of investing cash flow**
Share of investing Cash Flow is defined as the share of investing cash flow allocated to certain types of development as a percentage of the total investing cash flow. Share of investing cash flow presents the allocation the Group's cash resources to certain investments during the reporting period.

## RECONCILIATION OF ALTERNATIVE PERFORMANCE MEASURES

| SEKm | 2022 | 2021[1] |
|---|---|---|
| Revenue | 330,145 | 282,045 |
| Revenue per new car, BEV (SEKk)[2] | 448.8 | 430.2 |
| Revenue per new car, non-BEV (SEKk)[2] | 415.2 | 356.6 |
| Cost of sales | –269,813 | –221,254 |
| Research and development expenses | –11,514 | –12,714 |
| Operating income, EBIT | 22,332 | 20,275 |
| EBIT margin, excl. share of income from JVs & associates | 17,889 | 21,226 |
| Net income | 17,003 | 14,177 |
| EBITDA | 38,423 | 35,280 |
| Gross income per new car, BEV (SEKk)[2] | 36.8 | 57.3 |
| Gross income per new car, non-BEV (SEKk)[2] | 88.9 | 68.7 |
| Gross margin % | 18.3 | 21.6 |
| Gross margin BEV, %[2] | 8.2 | 13.3 |
| Gross margin non-BEV, %[2] | 21.4 | 19.3 |
| EBIT margin % | 6.8 | 7.2 |
| EBIT margin, excl. share of income from JVs & associates % | 5.4 | 7.5 |
| EBITDA margin % | 11.6 | 12.5 |
| Equity ratio % | 35.4 | 33.4 |
| Net cash | 38,061 | 44,846 |
| Share of investing cash flow BEV, % | 68.5 | 53.6 |
| Share of investing cash flow non-BEV, % | 6.2 | 12.9 |
| Return on invested capital, ROIC % | 16.7 | 18.6 |

| Total revenue | 2022 | 2021 |
|---|---|---|
| BEV vehicles, new cars[2] | 29,658 | 10,229 |
| Non-BEV vehicles, new cars[2] | 223,594 | 208,142 |
| Other revenue | 76,893 | 63,674 |
| **Total revenue** | **330,145** | **282,045** |

| | 2022 | | 2021 | |
|---|---|---|---|---|
| **Revenue per new car** | BEV | Non-BEV | BEV | Non-BEV |
| Revenue, new cars[2] | 29,658 | 223,594 | 10,229 | 208,142 |
| Vehicles, wholesales new cars (units) | 66,080 | 538,549 | 23,779 | 583,737 |
| **Revenue per new car (SEKk)** | **448.8** | **415.2** | **430.2** | **356.6** |

| | 2022 | | | | 2021 | | | |
|---|---|---|---|---|---|---|---|---|
| **Gross income split** | BEV (new cars) | Non-BEV (new cars) | Other | Total | BEV (new cars) | Non-BEV (new cars) | Other | Total |
| Gross income[2] | 2,429 | 47,858 | 10,045 | **60,332** | 1,362 | 40,116 | 19,313 | **60,791** |

| | 2022 | | 2021 | |
|---|---|---|---|---|
| **Gross income per new car** | BEV | Non-BEV | BEV | Non-BEV |
| Gross income, new cars[1] | 2,429 | 47,858 | 1,362 | 40,116 |
| Vehicles, wholesales new cars (k units) | 66.1 | 538.5 | 23.8 | 583.7 |
| **Gross income per new Car (SEKk)** | **36.8** | **88.9** | **57.3** | **68.7** |

| | 2022 | | | | 2021 | | | |
|---|---|---|---|---|---|---|---|---|
| **Gross margin BEV/ Non-BEV** | BEV (new cars) | Non-BEV (new cars) | Other | Total | BEV (new cars) | Non-BEV (new cars) | Other | Total |
| Gross income[1] | 2,429 | 47,858 | 10,045 | **60,332** | 1,362 | 40,116 | 19,313 | **60,791** |
| Revenue[1] | 29,658 | 223,594 | 76,893 | **330,145** | 10,229 | 208,142 | 63,674 | **282,045** |
| **Gross margin, %** | **8.2** | **21.4** | **13.1** | **18.3** | **13.3** | **19.3** | **30.3** | **21.6** |

1) In 2022, there has been a change in the elimination of internal profit related to sale of digital services within the Group. This change has resulted in a decrease of cost of sales, research and development expenses and selling expenses against an increase of administrative expenses. The figures for 2021 have been adjusted accordingly. The reclassification has no impact on EBIT.
2) Includes amounts for 2022 relating to emissions credits earned amounting to SEK 190 (—) and 315 (—) m relating to BEV and Non-BEV, respectively. See Note 2 – Revenue for more information.

| Operating income, EBIT/EBIT margin, % | 2022 | 2021 |
|---|---|---|
| Operating income, EBIT | 22,332 | 20,275 |
| Revenue | 330,145 | 282,045 |
| **EBIT margin %** | **6.8** | **7.2** |

| EBIT and EBIT margin, excl. share of income from JVs & associates, % | 2022 | 2021 |
|---|---|---|
| Operating income, EBIT | 22,332 | 20,275 |
| Share of income from JVs & associates | 4,443 | – 951 |
| **EBIT excl. share of income from JVs & associates** | **17,889** | **21,226** |
| Revenue | 330,145 | 282,045 |
| **EBIT margin, excl. share of income from JVs & associates %** | **5.4** | **7.5** |

| EBITDA/EBITDA margin, % | 2022 | 2021 |
|---|---|---|
| Operating income, EBIT | 22,332 | 20,275 |
| Depreciation and amortisation of non-current assets | 16,091 | 15,005 |
| ***EBITDA*** | ***38,423*** | ***35,280*** |
| Revenue | 330,145 | 282,045 |
| **EBITDA margin %** | **11.6** | **12.5** |

| Gross margin, % | 2022 | 2021 |
|---|---|---|
| Gross income | 60,332 | 60,791 |
| Revenue | 330,145 | 282,045 |
| **Gross margin %** | **18.3** | **21.6** |

| Operating cash, SEKm | 2022 | 2021 |
|---|---|---|
| Average two-year revenue* 10% | 30,610 | 27,244 |
| **Operating cash** | **30,610** | **27,244** |

| Invested capital[1], SEKm | 2022 | 2021 |
|---|---|---|
| Total assets | 307,141 | 272,602 |
| Receivables from parent company | — | — |
| Other long-term securities holdings | –3,059 | –2,107 |
| Cash and cash equivalents | –63,004 | –61,929 |
| Marketable securities | –5,706 | –8,042 |
| Operating cash | 30,610 | 27,244 |
| Total current liabilities | –137,746 | –126,234 |
| Current liabilities to parent company | — | — |
| Total current interest-bearing liabilities | 5,094 | 7,311 |
| **Total invested capital** | **133,330** | **108,845** |

1) Calculated on two-year average figures.

| Return on invested capital, ROIC, % | 2022 | 2021 |
|---|---|---|
| EBIT (last twelve months) | 22,332 | 20,275 |
| Invested capital | 133,330 | 108,845 |
| **Return on invested capital, ROIC, %** | **16.7** | **18.6** |

| Equity ratio, SEKm | 31 Dec 2022 | 31 Dec 2021 |
|---|---|---|
| Total equity[1] | 117,278 | 94,512 |
| Total assets | 330,924 | 283,358 |
| **Equity ratio, %** | **35.4** | **33.4** |

1) Adjustments have been made to the prior period presented. For more information see Note 10 – Government Grants.

| Share of Investing Cash Flow, % | 2022 BEV (new cars) | 2022 Non-BEV (new cars) | 2022 Other | 2022 Total | 2021 BEV (new cars) | 2021 Non-BEV (new cars) | 2021 Other | 2021 Total |
|---|---|---|---|---|---|---|---|---|
| Investments in intangible assets | –13,903 | –1,369 | –3,056 | **–18,328** | –6,837 | –1,629 | –3,506 | **–11,972** |
| Investments in property, plant and equipment | –5,029 | –343 | –3,946 | **–9,318** | –3,071 | –749 | –2,680 | **–6,500** |
| Investments in other tangible assets[1] | — | — | –4,466 | **–4,466** | — | — | –4,852 | **–4,852** |
| ***Subtotal*** | ***–18,932*** | ***–1,712*** | ***–11,468*** | ***–32,112*** | ***–9,908*** | ***–2,378*** | ***–11,038*** | ***–23,324*** |
| **Share of investing cash flow[2], %** | **68.5** | **6.2** | **25.3** | **100.0** | **53.6** | **12.9** | **33.5** | **100.0** |

| Net cash, SEKm | 31 Dec 2022 | 31 Dec 2021 |
|---|---|---|
| Cash and cash equivalents | 63,743 | 62,265 |
| Marketable securities | 3,415 | 7,996 |
| Liabilities to credit institutions (non-current) | –3,096 | –2,543 |
| Bonds (non-current)[2] | –23,246 | –18,401 |
| Other interest-bearing liabilities[3] | — | — |
| Liabilities to credit institutions (current) | –755 | –4,471 |
| Bonds (current)[2] | –2,000 | — |
| **Net cash[2]** | **38,061** | **44,846** |

1) Investments in other tangible assets is excluded when calculating the Share of investing cash flow.
2) The bonds are presented above at amortised cost. The fair value risk of the EUR-denominated bonds is hedged and the bonds with fixed interest payments have been swapped into floating interest payments. Part of the bonds is therefore measured at fair value through the income statement and the remaining part is measured at amortised cost. On 31 December 2022, the fair value component amounted to SEK –287 (—) m.
3) The net cash calculation excludes current SEK –1,500 (–1,462) m and non-current SEK –4,845 (–5,509) m financial liabilities related to IFRS 16.

### Other measures presented by Volvo Car Group

Other measures presented and disclosed in this report are used internally by management. The Group believes that these measures provide helpful supplementary information for investors. The measures are not a substitute for or superior to the Alternative performance measures or IFRS measures and should be used in conjunction with reported Alternative performance measures and IFRS measures. Further, the measures, as defined by the Group, may not be comparable to other similarly titled measures used by other groups.

### Liquidity

Liquidity is defined as cash, cash equivalents, undrawn credit facilities and marketable securities.

| Liquidity, SEKm | 31 Dec 2022 | 31 Dec 2021 |
|---|---|---|
| Cash and cash equivalents | 63,743 | 62,265 |
| Undrawn credit facilities | 16,674 | 13,377 |
| Marketable securities | 3,415 | 7,996 |
| **Liquidity** | **83,832** | **83,638** |

# Income Statements and Comprehensive Income – Parent Company

| SEKm | Note | 2022 | 2021 |
|---|---|---|---|
| Administrative expenses | 3, 4, 5 | –27 | –26 |
| **Operating income/(loss)** | | **–27** | **–26** |
| | | | |
| Income from participation in subsidiaries | 3 | 1,500 | 3,000 |
| Interest income and similar credits[1] | 3 | 942 | 722 |
| Interest expenses and similar charges[1] | 3, 4 | –640 | –645 |
| Other financial income and expenses[1] | 3, 4, 6 | –28 | 46 |
| **Income before tax** | | **1,747** | **3,097** |
| | | | |
| Income tax | 7 | 889 | 58 |
| **Net income** | | **2,636** | **3,155** |

1) In 2022, Volvo Cars changed the presentation of Financial income and Financial expenses. See Note 6 – Other financial income and expenses.

Other comprehensive income and Net income are consistent since there are no items in other comprehensive income.

# Balance Sheets – Parent Company

| SEKm | Note | 31 Dec 2022 | 31 Dec 2021 |
|---|---|---|---|
| **ASSETS** | | | |
| **Non-current assets** | | | |
| Participation in subsidiaries | 8 | 17,913 | 13,359 |
| Deferred tax assets | 7 | 3,018 | 2,129 |
| Receivables from group companies | 3 | 24,332 | 18,421 |
| **Total non-current assets** | | **45,263** | **33,909** |
| | | | |
| **Current assets** | | | |
| Receivables from group companies | 3 | 22,207 | 22,449 |
| Other current assets | | 27 | 39 |
| Cash and cash equivalents | | — | — |
| **Total current assets** | | **22,234** | **22,488** |
| **TOTAL ASSETS** | | **67,497** | **56,397** |

| SEKm | Note | 31 Dec 2022 | 31 Dec 2021 |
|---|---|---|---|
| **EQUITY & LIABILITIES** | | | |
| **Equity** | 9 | | |
| *Restricted equity* | | | |
| Share capital | | 61 | 61 |
| | | **61** | **61** |
| *Non-restricted equity* | | | |
| Share premium reserve | | 31,654 | 31,655 |
| Retained earnings | | 1,964 | –1,215 |
| Net income | | 2,636 | 3,155 |
| | | **36,254** | **33,595** |
| **Total equity** | | **36,315** | **33,656** |
| | | | |
| **Non-current liabilities** | | | |
| Bonds | 10 | 23,246 | 18,401 |
| Liabilities to credit institutions | 10 | 996 | — |
| **Total non-current liabilities** | | **24,242** | **18,401** |
| | | | |
| **Current liabilities** | | | |
| Bonds | | 2,000 | — |
| Liabilities to credit institutions | 10 | — | 3,999 |
| Liabilities to group companies | 3 | 4,533 | 1 |
| Accounts payable | | — | 47 |
| Other current liabilities | | — | 4 |
| Accrued expenses and prepaid income | | 407 | 289 |
| **Total current liabilities** | | **6,940** | **4,340** |
| **TOTAL EQUITY & LIABILITIES** | | **67,497** | **56,397** |

# Changes in Equity – Parent Company

| SEKm | Restricted equity: Share capital[1] | Non-restricted equity: Share premium reserve | Other contributed capital | Retained earnings | Total |
|---|---|---|---|---|---|
| **Balance at 1 January 2021** | **51** | **11,497** | **–3,500** | **7,825** | **15,873** |
| **Net income for the year** | **—** | **—** | **—** | **3,155** | **3,155** |
| **Transactions with owners** | | | | | |
| Redemption of preference shares | –1 | –4,988 | — | –335 | **–5,324** |
| Bonus issue | 1 | — | — | –1 | **—** |
| New issue | 8 | 19,733 | — | — | **19,741** |
| Issue in kind | — | 91 | — | — | **91** |
| Direct new issue to preference shareholders | 2 | 5,322 | — | — | **5,324** |
| Dividend to shareholders | — | — | — | –5,204 | **–5,204** |
| **Transactions with owners** | **10** | **20,158** | — | **–5,540** | **14,628** |
| **Balance at 31 December 2021** | **61** | **31,655** | **–3,500** | **5,440** | **33,656** |
| **Net income for the year** | **—** | **—** | **—** | **2,636** | **2,636** |
| **Transactions with owners** | | | | | |
| New issue | — | –1 | — | — | **–1** |
| Share-based payments | — | — | — | 24 | **24** |
| **Transactions with owners** | **—** | **–1** | **—** | **24** | **23** |
| **Balance at 31 December 2022** | **61** | **31,654** | **–3,500** | **8,100** | **36,315** |

1) Share capital amounts to SEK 60,947,709 (60,947,709).

# Statement of Cash Flows – Parent Company

| SEKm | Note | 2022 | 2021 |
|---|---|---|---|
| **OPERATING ACTIVITIES** | | | |
| Operating income | | –27 | –26 |
| Interest received | | 766 | 767 |
| Interest paid | | –485 | –676 |
| | | **254** | **65** |
| *Movements in working capital* | | | |
| Change in current receivables group companies | 3 | –15 | –17,602 |
| Change in current receivables | | 12 | 6 |
| Change in current liabilities group companies | 3 | 2 | — |
| Change in liabilities | | –92 | –107 |
| **Cash flow from movements in working capital** | | **–93** | **–17,703** |
| **Cash flow from operating activities** | | **161** | **–17,638** |
| Investments in shares and participations | | — | –5,025 |
| **Cash flow from investing activities** | | — | **–5,025** |
| **Cash flow from operating and investing activities** | | **161** | **–22,663** |
| **FINANCING ACTIVITIES** | | | |
| Proceeds from bond issuance | 10 | 5,214 | — |
| Proceeds from credit institutions | 10 | 996 | — |
| Repayment of bond | 10 | — | –8,064 |
| Repayment of loan to credit institutions | 10 | –3,999 | — |
| Change in non-current receivables group companies | 3 | –2,360 | 8,064 |
| Dividend received from subsidiary | | — | 3,000 |
| Dividend paid to shareholders | | — | –179 |
| New share issue | 9 | — | 19,900 |
| Other | | –12 | –60 |
| **Cash flow from financing activities** | | **–161** | **22,661** |
| **Cash flow for the year** | | **—** | **–2** |
| **Cash and cash equivalents at beginning of year** | | **—** | **2** |
| **Cash and cash equivalents at end of year** | | **—** | **—** |

# Notes to The Parent Company Financial Statements

All amounts are in SEKm unless otherwise stated.
Amounts in brackets refer to the preceding year.

## NOTE 1 – SIGNIFICANT ACCOUNTING POLiCIES

**Basis of preparation**

The Parent company has prepared its financial statements in accordance with the Swedish Annual Accounts Act (1995:1554) and RFR 2, Accounting for Legal entities. According to RFR 2, the Parent company shall apply all the International Financial Reporting Standards endorsed by the EU as far as this is possible within the framework of the Swedish Annual Accounts Act. Changes in RFR 2 applicable to the fiscal year beginning 1 January 2022, have had no material impact on the financial statements of the Parent company.

All specific accounting policies considered material to Volvo Car Group are described in conjunction with each presented note in the consolidated financial statements. The main deviations between the accounting policies applied by the Volvo Car Group and the Parent company are described below.

***Shares and participations in Group companies***

Shares and participations in Group companies are recognised at cost in the Parent company's balance sheet and test for impairment is performed annually or whenever there is an indication to do so. Dividends are recognised in the income statement. All shares and participations are related to business operations and profit and loss from these are reported within operating income.

Transaction costs directly attributable to acquisitions of shares and participations in Group companies are accounted for as an increase in the carrying amount.

Group contributions made to subsidiaries are reported as an increase of investments in these subsidiaries. A review is at the same time made to conclude whether or not there is an impairment risk with regards to the same shares of the subsidiaries having received the group contribution. Tax effect of these group contributions are recognised in the income statement. Group contributions made to the parent company are recognised in equity, along with the tax effect. Received group contributions from subsidiaries are recognised as financial income. Tax effect on received group contributions are recognised in the income statement. Received group contributions from the parent company are recorded in equity, along with the tax effect.

Made shareholders' contributions are recognised in shares in subsidiaries and as such they are subject to impairment testing.

***Income taxes***

Deferred tax liability on untaxed reserves is included in untaxed reserves in the parent company.

***Equity***

In accordance with the Swedish Annual Accounts Act, equity is split between restricted and non-restricted equity.

## NOTE 2 – CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

Preparation of the financial statements in accordance with the Swedish Annual Accounts Act (1995:1554) and RFR 2 requires the Company's Executive management and Board of Directors to make estimates and judgements as well as to make assumptions that affect application of the accounting policies and the reported assets, liabilities, income and expenses. Critical accounting estimates and judgements applied by the Volvo Car Group are described in conjunction with applicable note in the consolidated financial statements. None of these critical accounting estimates are applicable to the parent company. Shares and participations in Group companies recognised at cost in the Parent company are being tested for impairment annually or if an indication of impairment exists.

## NOTE 3 – RELATED PARTIES

During the year, the parent company entered into the following transactions with related parties:

| | Sales of goods, services and other | | Purchase of goods, services and other | |
|---|---|---|---|---|
| | **2022** | 2021 | **2022** | 2021 |
| Companies within the Volvo Car Group | 100% | 96% | 1% | 2% |

| | **2022** | 2021 |
|---|---|---|
| Interest income from subsidiaires | 941 | 721 |
| Interest income from parent company | 1 | 1 |
| Interest expenses to subsidaires | — | 8 |

| | Receivables | | Payables | |
|---|---|---|---|---|
| | **31 Dec 2022** | 31 Dec 2021 | **31 Dec 2022** | 31 Dec 2021 |
| Companies within the Volvo Car Group | 46,472 | 40,804 | 4,533 | 1 |
| *whereof short-term* | *22,207* | *22,383* | *4,533* | *1* |
| Companies within the Geely Sweden Holdings Group | 67 | 66 | — | — |
| *whereof short-term* | — | *66* | — | — |

Business transactions between the parent company and related parties all arise in the normal course of business and are conducted on the basis of arm's length principles. Volvo Car AB (publ.) has given group contribution of SEK 4 530 (-) m to its subsidiary, Volvo Car Corporation. Further Volvo Car AB (publ.) has received dividend of

SEK 1,500 (3,000) m from its subsidiary, Volvo Car Corporation, and paid dividend of SEK — (179) m to its preference shareholders and distributed dividend of SEK — (5,979) m to its shareholder Geely Sweden Holdings AB. For further information regarding dividends. see Note 9 – Equity.

Volvo Car AB (publ.) does not engage in any transactions with Board members or senior executives except ordinary remunerations for services. For further information regarding remunerations, see Note 8 – Employees and remuneration, in the consolidated financial statements.

## NOTE 4 – AUDIT FEES

| TSEK | 2022 | 2021 |
|---|---|---|
| **Deloitte** | | |
| Audit fees | –136 | –1,606 |
| Audit-related fees | –454 | –6,572 |
| Other services | — | — |
| **Total** | **–590** | **–8,178** |

The amount for 2021 includes expenses related to the IPO.

**Audit fees** involve audit of the Annual Report, financial accounts and the administration by the Board of Directors and the Managing Directors. The audit also includes advice and assistance as a result of the observations made in connection with the audit.

**Audit-related fees** refer to other assignments to ensure quality in the financial statements including consultations on reporting requirements and internal control.

All other work performed by the auditor is defined as **other services**.

## NOTE 5 – REMUNERATION TO THE BOARD OF DIRECTORS

Information on remuneration to Board members by gender is shown in Note 8 – Employees and remuneration, in the consolidated statements.

## NOTE 6 – OTHER FINANCIAL INCOME AND EXPENSES

In 2022, Volvo Cars changed the presentation of Financial income and Financial expenses in the Income Statements. Financial income and Financial expenses are presented as Interest income and similar credits, Interest expenses and similar charges and Other financial income and expenses. Presented in the previous manner, Financial income and Financial expenses in 2022 would amount to SEK 942 m and SEK –668 m respectively.

| | 2022 | 2021 |
|---|---|---|
| Bond fees | –12 | –10 |
| Expenses for credit facilities | –12 | –60 |
| Other financial income | — | 164 |
| Other financial expenses | –4 | –48 |
| **Total** | **–28** | **46** |

## NOTE 7 – TAXES

| Income tax recognised in income statement | 2022 | 2021 |
|---|---|---|
| Deferred taxes | 889 | 58 |
| **Total** | **889** | **58** |

| Information regarding current year tax expense compared to tax expense based on the applicable Swedish tax rate | 2022 | 2021 |
|---|---|---|
| Income before tax for the year | 1,747 | 3,097 |
| Tax according to applicable Swedish tax rate, 20.6 % (20.6%) | –360 | –638 |
| Costs non-deductible | — | –9 |
| Non-taxable dividends | 309 | 618 |
| Non-taxable income | 7 | 34 |
| Tax effect of group contributions | 933 | — |
| Tax effect of deductible costs reported over equity | — | 53 |
| **Total** | **889** | **58** |

Total deferred tax assets of SEK 3,018 (2,129) m relates to loss-carry forward, with an indefinite period of utilisation. Deferred tax assets are only accounted for to the extent there are taxable temporary differences or other factors that convincingly indicate there will be sufficient future taxable profit.

## NOTE 8 – PARTICIPATION IN SUBSIDIARIES

| | 31 Dec 2022 | 31 Dec 2021 |
|---|---|---|
| At beginning of the year/acquired acquisition value | 13,359 | 13,267 |
| Group contribution | 4,530 | — |
| Investment | — | 5,025 |
| Desinvestment | — | –5,025 |
| Conversion of warranty programme | — | 1 |
| Issue in kind | — | 91 |
| Share-based payments | 24 | — |
| **Total** | **17,913** | **13,359** |

| Volvo Car AB's (publ.) investments in subsidiaries: | Corp. ID no. | Registered office | No. of shares | % interest held | Book value 31 Dec 2022 | Book value 31 Dec 2021 |
|---|---|---|---|---|---|---|
| Volvo Personvagnar AB[1)2)] | 556074-3089 | Gothenburg / Sweden | 724,889 | 100 | 17,913 | 13,359 |

Details of Volvo Car Corporation's directly owned subsidiaries at the end of the reporting period are presented in the following table.

PARENT COMPANY FINANCIAL STATEMENTS

| Legal entity | Corp. ID no. | Registered office | % interest held |
|---|---|---|---|
| **Sweden** | | | |
| Automotive Components Floby AB | 556981-8874 | Falköping / Sweden | 100 |
| Care by Volvo Car AB | 556746-9407 | Gothenburg / Sweden | 100 |
| CLPE AB | 556955-7118 | Gothenburg / Sweden | 100 |
| Fastighetsbolag Sörred 8:9 AB | 559176-3890 | Gothenburg / Sweden | 100 |
| Fastighetsbolag Sörred 8:11 AB | 556994-2351 | Gothenburg / Sweden | 100 |
| HaleyTek AB | 559307-9485 | Gothenburg / Sweden | 60 |
| NVC Energy VII AB | 559344-2410 | Gothenburg / Sweden | 100 |
| PSINV AB | 559140-6409 | Gothenburg / Sweden | 100 |
| Volvo Bil i Göteborg AB | 556056-6266 | Gothenburg / Sweden | 100 |
| Volvo Car Australia Holding AB | 556152-2680 | Gothenburg / Sweden | 100 |
| Volvo Car Försäkrings AB | 556877-5778 | Gothenburg / Sweden | 100 |
| Volvo Car Investment and Borrowing AB | 556130-4246 | Gothenburg / Sweden | 100 |
| Volvo Car Mobility AB | 556955-6441 | Stockholm / Sweden | 100 |
| Volvo Car NSC Holding AB | 556754-8283 | Gothenburg / Sweden | 100 |
| Volvo Car Pension Management AB | 559140-6417 | Gothenburg / Sweden | 100 |
| Volvo Car Real Estate and Assets 1 AB | 556205-7298 | Gothenburg / Sweden | 100 |
| Volvo Car Real Estate and Assets 3 AB | 559176-3908 | Gothenburg / Sweden | 100 |
| Volvo Car Real Estate and Assets 7:24 AB | 559064-3457 | Gothenburg / Sweden | 100 |
| Volvo Car Services 6 AB | 559140-6433 | Gothenburg / Sweden | 100 |
| Volvo Car Services 7 AB | 559228-9341 | Gothenburg / Sweden | 100 |
| Volvo Car Services 9 AB | 559228-9366 | Gothenburg / Sweden | 100 |
| Volvo Car Services 11 AB | 559354-9545 | Gothenburg / Sweden | 100 |
| Volvo Car Services 12 AB | 559354-9552 | Gothenburg / Sweden | 100 |
| Volvo Car Services Sweden AB | 556601-7843 | Gothenburg / Sweden | 100 |
| Volvo Car Sverige AB | 556034-3484 | Gothenburg / Sweden | 100 |
| Volvo Car Technology Fund AB | 556877-5760 | Gothenburg / Sweden | 100 |
| Volvo Personvagnar Norden AB | 556413-4848 | Gothenburg / Sweden | 100 |
| Zenseact AB | 559228-9358 | Gothenburg / Sweden | 100 |
| **Europe** | | | |
| Volvo Car Austria GmbH | | Austria | 100 |
| Volvo Car Czech Republic s.r.o. | | Czech Republic | 100 |
| Volvo Car Denmark A/S | | Denmark | 100 |
| Volvo Car Finland Oy Ab | | Finland | 100 |
| Volvo Car France SAS | | France | 100 |
| Volvo Car Germany GmbH | | Germany | 100 |
| Volvo Car Hellas Anonymous[3] | | Greece | 100 |
| Volvo Car Hungary Trading and Service Ltd | | Hungary | 100 |

| Legal entity | Registered office | % interest held |
|---|---|---|
| Volvo Car Gallery Ltd | Hungary | 100 |
| Volvo Car Ireland Ltd | Ireland | 100 |
| Volvo Car Italia S.p.A. | Italy | 100 |
| Volvo Car Nederland B.V. | The Netherlands | 100 |
| Volvo Car Nederland Financial Services B.V. | The Netherlands | 100 |
| SNEBE Holding B.V. | The Netherlands | 100 |
| SNITA Holding B.V. | The Netherlands | 100 |
| SWENE Holding B.V. | The Netherlands | 100 |
| Volvo Car Norway AS | Norway | 100 |
| Volvo Car Poland Sp. z.o.o. | Poland | 100 |
| Volvo Car Portugal S.A. | Portugal | 100 |
| Volvo Car Espana S.L. | Spain | 100 |
| Volvo Car Slovakia s.r.o | Slovakia | 100 |
| Volvo Car Switzerland AG | Switzerland | 100 |
| Volvo Car UK Ltd | United Kingdom | 100 |
| **North and South America** | | |
| Volvo Car Brasil Importacao e Comercio de Veiculos Ltda | Brazil | 100 |
| Volvo Car do Brasil Automoveis Ltda | Brazil | 100 |
| Volvo Car Canada Ltd | Canada | 100 |
| Volvo Car Mexico S.A. de C.V. | Mexico | 100 |
| Volvo Car Financial Services U.S., LLC | USA | 100 |
| Volvo Car North America, LLC | USA | 100 |
| **Africa and Asia** | | |
| Volvo Car Group Financial Leasing (Shanghai) Co., Ltd. | China | 100 |
| Volvo Cars (China) Investment Co., Ltd.[4] | China | 100 |
| Volvo Cars Technology (Shanghai) Co., Ltd. | China | 100 |
| Volvo Auto India Pvt. Ltd | India | 100 |
| Volvo Car Japan Ltd | Japan | 100 |
| Volvo Car Korea Co., Ltd | Korea | 100 |
| Volvo Car Manufacturing Malaysia Sdn Bhd | Malaysia | 100 |
| Volvo Car Singapore PTE Ltd | Singapore | 100 |
| Volvo Car South Africa Pty Ltd | South Africa | 100 |
| Volvo Car Taiwan Ltd | Taiwan | 100 |
| Volvo Car Turkey Otomobil Ltd Sirketi | Turkey | 100 |
| Volvo Car RDC Middle East FZE | United Arab Emirates | 100 |

1) Referred to as Volvo Car Corporation.
2) Volvo Car PHEV Holding AB and Volvo Car PHEV Holding 2 AB, effective as from 19 December 2022, were merged into Volvo Car Corporation.
3) Legal name in full: Volvo Car Hellas Anonymous and Industrial company of car and spare parts imports and trade.

The share of voting power corresponds to holdings in per cent as seen in the table above. The countries where the subsidiaries are registered are also where their main operations are carried out.

### Significant restrictions

For some subsidiaries there are restrictions on the Volvo Car Group's ability to access or use cash from these subsidiaries, for more information on cash that is not available or with other limitations, see Note 21 - Marketable securities and cash and cash equivalents in the consolidated financial statements.

### Change in the Group's ownership interest in a subsidiary

On 7 July 2022, Volvo Car Corporation acquired the non-controlling interest of 21 per cent in PSINV AB, and consequently the non-controlling interest ceased.

On 1 September 2021, ECARX Technology Co., Ltd, a related company with the same ultimate shareholder as Volvo Car Group, but outside the Geely sphere of companies, acquired 40 per cent of the shareholding in the wholly-owned subsidiary HaleyTek AB. HaleyTek AB is still classified as subsidiary and fully consolidated with a non-controlling interests of 40 per cent since Volvo Car Group have the power of control.

Further on 1 July 2021, ECARX Technology Co., Ltd acquired 15 per cent of the shareholding in the wholly-owned subsidiary Zenseact AB through a direct share issue, thereafter still classified as a subsidiary and fully consolidated with a non-controlling interest of 13.5 (15) per cent since Volvo Car Group have the power of control. On 31 December 2022, Volvo Car Corporation acquired the non-controlling interest of 13.5 per cent, and consequently the non-controlling interest ceased.

On 30 June 2021, following a decision by the Board on 31 May, the wholly-owned subsidiaries Powertrain Engineering Sweden AB and Powertrain Engineering Sweden Real Estate AB were divested from Volvo Car Group through a dividend distribution of the entire shareholdings to the main shareholder Geely Sweden Holdings AB. As a consequence Volvo Car Group lost control and the subsidiaries were deconsolidated and from 1 July, classified as related party companies.

### Details of non-wholly-owned subsidiaries that have non-controlling interests[4)]

On 25 June 2015, Volvo Car Group, through one of its wholly-owned subsidiaries, Volvo Cars (China) Investment Co., Ltd, acquired an additional 20 per cent in Volvo Cars' Chinese joint venture companies. In the consolidated financial statements, these joint venture companies are classified as subsidiaries and fully consolidated with a non-controlling interest of 50 per cent since Volvo Car Group has the decision-making power over the operations.

Additionally, Daqing Volvo Car Manufacturing Co., Ltd has acquired 100 per cent of the shares in Volvo Car (Asia Pacific) Investment Holding Co., Ltd which holds 100 per cent of Zhongjia Automobile Manufacturing (Chengdu) Co., Ltd and Shanghai Zhawo Auto Sales Co., Ltd.

On 31 January 2022, Volvo Cars (China) Investment Co., Ltd divested its shareholding in the 50 per cent owned subsidiary Zhangjiakou Volvo Car Engine Manufacturing Co., Ltd and consequently the non-controlling interest ceased, see Note 31 - Business combinations and divestments.

On 30 September 2021, the wholly-owned subsidiary Volvo Car Retail AB acquired the remaining 50 per cent shareholding in Bra Bil Sverige AB and consequently the non-controlling interest ceased.

The table below shows details of non-wholly-owned subsidiaries of the Group that have non-controlling interests.

| | Registered office | % interest held | | Profit allocated to non-controlling interests | | Accumulated non-controlling interests | |
|---|---|---|---|---|---|---|---|
| **Legal entity:** | | **31 Dec 2022** | 31 Dec 2021 | **31 Dec 2022** | 31 Dec 2021 | **31 Dec 2022** | 31 Dec 2021 |
| Daqing Volvo Car Manufacturing Co., Ltd.[5)6)] | China | 50 | 50 | 1,441 | 1,389 | 2,908 | 2,229 |
| Zhangjiakou Volvo Car Engine Manufacturing Co., Ltd.[5)] | China | — | 50 | 62 | 277 | — | 1,148 |
| Shanghai Volvo Car Research and Development Co., Ltd.[5)] | China | 50 | 50 | — | — | 118 | 116 |
| Bra Bil Sverige AB | Sweden | — | — | — | 27 | — | — |
| HaleyTek AB | Sweden | 40 | 40 | –52 | –20 | 305 | 340 |
| PSINV AB | Sweden | — | 21 | — | — | — | 37 |
| Zenseact AB | Sweden | — | 15 | –25 | –42 | — | 457 |
| **Total non-controlling interests** | | | | **1,426** | **1,631** | **3,331** | **4,327** |

5) 50 per cent held by Zhejiang Geely Holding Group Co., Ltd, which is the ultimate parent company of the Volvo Car Group.
6) The accumulated non-controlling interest per 31 Dec 2021 has been restated. For further information, see Note 10 – Government Grants.

## NOTE 9 – EQUITY

In 2021, Volvo Car Group AB (publ.) was listed on the Nasdaq Stockholm. For further information, see Note 22 – Equity in the consolidated financial statements.

Equity-settled share-based payments in connection with employee incentive plans are recognised in equity. For further information, see Note 8 - Employees and remuneration.

Dividends to shareholders include dividends to preference shareholders of SEK — (179) m and SEK — (5,979) m to the main shareholder Geely Sweden Holdings AB. The dividend to Geely Sweden Holdings AB was, following a decision by the Board, settled through distribution of the entire shareholding in Powertrain Engineering Sweden AB and Powertrain Engineering Sweden Real Estate AB, with a net effect in Equity of SEK 5,025 m due to the fair value of the shares being higher than their carrying amount in the parent company.

## NOTE 10 – FINANCIAL INSTRUMENTS

**Bonds**

During 2022 Volvo Cars issued a 6-year EUR 500 m green bond with Svensk Exportkredit. In 2021, Volvo Car AB (publ.) repaid a bond, issued in May 2016, of EUR 500 m. In December 2021, two bonds maturing in March 2022, with a total outstanding amount of SEK 3,000 m, were expired early by exercising the embedded call option of the bonds.

**Liabilities to credit institutions**

In May 2022 Volvo Car AB (publ.) repaid a Swedish Export Credit Corporation loan, issued in May 2020 of SEK 4,000 m.

During 2022 Volvo Cars entered into a green bank loan of SEK 1,000 m with Svensk Exportkredit.

A green loan facility was also signed with the Nordic Investment Bank, amounting to EUR 200 m. The current EUR 1,300 m Revolving Facility with Swedbank was extendeed from January 2025 to January 2026. The facilities are not yet drawn upon.

For more information see Note 20 – Financial instruments and financial risks in the consolidated financial statements.
No fair value hegde is applied in Volvo Car AB (publ.).

## NOTE 11 – CONTINGENT LIABILITIES

Volvo Car AB (publ.) has a parental guarantee for Volvo Car Corporation for the purpose of securing the various obligations and liabilities under facility agreement with the European Investment Bank (EIB). The guarantee is in total of EUR 345 (345) m.

# Proposed Distribution of Non-Restricted Equity

**The parent company**

The following funds are at the disposal of Annual General Meeting (AGM):

| | | |
|---|---|---|
| Share premium reserve | SEK | 31,653,517,859 |
| Retained earnings brought forward | SEK | 1,964,732,609 |
| Net income for the year | SEK | 2,635,804,793 |
| **At the disposal of the AGM** | **SEK** | **36,254,055,261** |

The Board proposes the following allocations of funds:

| | | |
|---|---|---|
| **Carried forward** | **SEK** | **36,254,055,261** |

The Board of Directors and the CEO hereby affirm that the consolidated financial statements have been prepared in accordance with International Financial Reporting Standards, IFRS, as adopted by the EU and provide a true and fair view of the Group's financial position and earnings.

The Annual Report has been prepared in accordance with generally accepted accounting principles and provides a fair and true view of the parent company's financial position and earnings. The Board of Directors' report for the Group and the parent company provides a true and fair overview of the development of the operations, financial position and earnings of the Group and parent company and describes material risks and uncertainty factors facing the parent company and the companies included in the Group.

Gothenburg, 8 March 2023

**Eric Li (Li Shufu)**
*Chairperson of the Board*

**Jim Rowan**
*CEO*

**Lone Fønss Schrøder**
*Vice Chairperson of the Board*

**Thomas Johnstone**
*Board member*

**Daniel Li (Li Donghui)**
*Board member*

**Diarmuid O'Connell**
*Board member*

**Jonas Samuelson**
*Board member*

**Lila Tretikov**
*Board member*

**Winfried Vahland**
*Board member*

**Anna Mossberg**
*Board member*

**Adrian Avdullahu**
*Employee representative*

**Jörgen Olsson**
*Employee representative*

**Björn Olsson**
*Employee representative*

Our audit report was submitted on 8 March 2023
Deloitte AB

**Jan Nilsson**
*Authorized Public Accountant*

# Auditor's Report

*This auditor's report is a translation of the Swedish language original. In the events of any differences between this translation and the Swedish original the latter shall prevail.*

**To the general meeting of the shareholders of Volvo Car AB (publ.) corporate identity number 556810-8988**

## Report on the annual accounts and consolidated accounts

### *Opinions*

We have audited the annual accounts and consolidated accounts of Volvo Car AB (publ.) for the financial year 2022-01-01 - 2022-12-31. The annual accounts and consolidated accounts of the company are included on pages 47-58, 76-132, 137-144 in this document.

In our opinion, the annual accounts have been prepared in accordance with the Annual Accounts Act and present fairly, in all material respects, the financial position of the parent company as of 31 December 2022 and its financial performance and cash flow for the year then ended in accordance with the Annual Accounts Act. The consolidated accounts have been prepared in accordance with the Annual Accounts Act and present fairly, in all material respects, the financial position of the group as of 31 December 2022 and their financial performance and cash flow for the year then ended in accordance with International Financial Reporting Standards (IFRS), as adopted by the EU, and the Annual Accounts Act. The statutory administration report is consistent with the other parts of the annual accounts and consolidated accounts.

We therefore recommend that the general meeting of shareholders adopts the income statement and balance sheet for the parent company and the group.

Our opinions in this report on the annual accounts and consolidated accounts are consistent with the content of the additional report that has been submitted to the parent company's audit committee in accordance with the Audit Regulation (537/2014) Article 11.

### *Basis for Opinions*

We conducted our audit in accordance with International Standards on Auditing (ISA) and generally accepted auditing standards in Sweden. Our responsibilities under those standards are further described in the Auditor's Responsibilities section. We are independent of the parent company and the group in accordance with professional ethics for accountants in Sweden and have otherwise fulfilled our ethical responsibilities in accordance with these requirements. This includes that, based on the best of our knowledge and belief, no prohibited services referred to in the Audit Regulation (537/2014) Article 5.1 have been provided to the audited company or, where applicable, its parent company or its controlled companies within the EU.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinions.

### *Key Audit Matters*

Key audit matters of the audit are those matters that, in our professional judgment, were of most significance in our audit of the annual accounts and consolidated accounts of the current period. These matters were addressed in the context of our audit of, and in forming our opinion thereon, the annual accounts and consolidated accounts as a whole, but we do not provide a separate opinion on these matters.

### *Accounting for campaign warranty*

The Company grants product warranties to their end customers, which are contractual warranties covering certain defects in material and workmanship of Volvo Car products sold. Estimated warranty costs include contractual warranty and other costs not covered by standard contractual commitments. All warranty provisions are recognized at the point of time when the sale of the vehicles or spare parts are made, subsequently adjusted for trends in claims data. Provision for campaign warranty is adjusted when campaign decisions for specific quality problems are made. The accounting principles for warranty and management's significant judgments applied in relation thereto are further described in Note 24 "Current and Other Non-Current Provisions" to the annual report.

Sufficient level of supporting data is required before the Company can make campaign decisions regarding specific quality problems and account for related campaign warranty provisions. Once decisions are taken, judgements and estimates are made by management to assess the expected campaign warranty spend and to conclude whether adjustments to provisions are required. Considering that the accounting for campaign warranty involves complexities and significant uncertainties, the accounting for completeness and measurement of provisions for campaign warranty was determined to be a key audit matter.

Our audit procedures included, but were not limited to:

- Evaluating the design and implementation of relevant internal controls related to accounting for campaign warranty.
- Evaluating the process used, and assessing the assumptions applied, in determining the estimated standard provision for campaign warranty.
- Assessing the reasonableness of the methodology used in determination of provision for campaign warranty, including accounting principles applied.
- On a sample basis, assessing and challenging the reasonableness of management´s significant assumptions in relation to expected number of products returned and the valuation of estimated cost for approved campaigns.
- Reading minutes and making inquiries to management to evaluate if decisions on campaigns have been taken subsequent to December 31, 2022 up to the signing of the annual report, that should have been reflected in the provision as of December 31, 2022.
- In collaboration with our IT-specialists, audited general IT-controls and relevant application controls for relevant warranty IT-systems.

### *Other information than the annual accounts and consolidated accounts*

This document also contains other information than the annual accounts and consolidated accounts and is found on pages 1-46, 59-74, 133-136, 148-196, 199-205. The Board of Directors and the Managing Director are responsible for this other information.

Our opinion on the annual accounts and consolidated accounts does not cover this other information and we do not express any form of assurance conclusion regarding this other information.

In connection with our audit of the annual accounts and consolidated accounts, our responsibility is to read the information identified above and consider whether the information is materially inconsistent with the annual accounts and consolidated accounts. In this procedure we also take into account our knowledge otherwise obtained in the audit and assess whether the information otherwise appears to be materially misstated.

If we, based on the work performed concerning this information, conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

***Responsibilities of the Board of Directors and the Managing Director***

The Board of Directors and the Managing Director are responsible for the preparation of the annual accounts and consolidated accounts and that they give a fair presentation in accordance with the Annual Accounts Act and, concerning the consolidated accounts, in accordance with IFRS as adopted by the EU. The Board of Directors and the Managing Director are also responsible for such internal control as they determine is necessary to enable the preparation of annual accounts and consolidated accounts that are free from material misstatement, whether due to fraud or error.

In preparing the annual accounts and consolidated accounts, The Board of Directors and the Managing Director are responsible for the assessment of the company's and the group's ability to continue as a going concern. They disclose, as applicable, matters related to going concern and using the going concern basis of accounting. The going concern basis of accounting is however not applied if the Board of Directors and the Managing Director intends to liquidate the company, to cease operations, or has no realistic alternative but to do so.

The Audit Committee shall, without prejudice to the Board of Director's responsibilities and tasks in general, among other things oversee the company's financial reporting process.

***Auditor's responsibility***

Our objectives are to obtain reasonable assurance about whether the annual accounts and consolidated accounts as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinions. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs and generally accepted auditing standards in Sweden will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these annual accounts and consolidated accounts.

A further description of our responsibilities for the audit of the annual accounts and consolidated accounts is located at the Swedish Inspectorate of Auditors website: www.revisorsinspektionen.se/revisornsansvar. This description forms part of the auditor´s report.

**Report on other legal and regulatory requirements**

***Opinions***

In addition to our audit of the annual accounts and consolidated accounts, we have also audited the administration of the Board of Directors and the Managing Director of Volvo Car AB (publ.) for the financial year 2022-01-01 - 2022-12-31 and the proposed appropriations of the company's profit or loss.

We recommend to the general meeting of shareholders that the profit to be appropriated in accordance with the proposal in the statutory administration report and that the members of the Board of Directors and the Managing Director be discharged from liability for the financial year.

***Basis for Opinions***

We conducted the audit in accordance with generally accepted auditing standards in Sweden. Our responsibilities under those standards are further described in the Auditor's Responsibilities section. We are independent of the parent company and the group in accordance with professional ethics for accountants in Sweden and have otherwise fulfilled our ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinions.

***Responsibilities of the Board of Directors and the Managing Director***

The Board of Directors is responsible for the proposal for appropriations of the company's profit or loss. At the proposal of a dividend, this includes an assessment of whether the dividend is justifiable considering the requirements which the company's and the group's type of operations, size and risks place on the size of the parent company's and the group's equity, consolidation requirements, liquidity and position in general.

The Board of Directors is responsible for the company's organization and the administration of the company's affairs. This includes among other things continuous assessment of the company's and the group's financial situation and ensuring that the company's organization is designed so that the accounting, management of assets and the company's financial affairs otherwise are controlled in a reassuring manner. The Managing Director shall manage the ongoing administration according to the Board of Directors' guidelines and instructions and among other matters take measures that are necessary to fulfill the company's accounting in accordance with law and handle the management of assets in a reassuring manner.

***Auditor's responsibility***

Our objective concerning the audit of the administration, and thereby our opinion about discharge from liability, is to obtain audit evidence to assess with a reasonable degree of assurance whether any member of the Board of Directors or the Managing Director in any material respect:

- has undertaken any action or been guilty of any omission which can give rise to liability to the company, or
- in any other way has acted in contravention of the Companies Act, the Annual Accounts Act or the Articles of Association.

Our objective concerning the audit of the proposed appropriations of the company's profit or loss, and thereby our opinion about this, is to assess with reasonable degree of assurance whether the proposal is in accordance with the Companies Act.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with generally accepted auditing standards in Sweden will always detect actions or omissions that can give rise to liability to the company, or that the proposed appropriations of the company's profit or loss are not in accordance with the Companies Act.

A further description of our responsibilities for the audit of the management's administration is located at the Swedish Inspectorate of Auditors website: www.revisorsinspektionen.se/rn/showdocument/documents/rev_dok/revisors_ansvar.pdf. This description forms part of the auditor´s report.

## The auditor's examination of the Esef report

***Opinion***

In addition to our audit of the annual accounts and consolidated accounts, we have also examined that the Board of Directors and the Managing Director have prepared the annual accounts and consolidated accounts in a format that enables uniform electronic reporting (the Esef report) pursuant to Chapter 16, Section 4 a of the Swedish Securities Market Act (2007:528) for Volvo Car AB (publ.) for the financial year 2022-01-01–2022-12-31.

Our examination and our opinion relate only to the statutory requirements.

In our opinion, the Esef report has been prepared in a format that, in all material respects, enables uniform electronic reporting.

***Basis for opinion***

We have performed the examination in accordance with FAR's recommendation RevR 18 Examination of the Esef report. Our responsibility under this recommendation is described in more detail in the Auditors' responsibility section. We are independent of Volvo Car AB (publ.) in accordance with professional ethics for accountants in Sweden and have otherwise fulfilled our ethical responsibilities in accordance with these requirements.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

***Responsibilities of the Board of Directors and the Managing Director***

The Board of Directors and the Managing Director are responsible for the preparation of the Esef report in accordance with the Chapter 16, Section 4 a of the Swedish Securities Market Act (2007:528), and for such internal control that the Board of Directors and the Managing Director determine is necessary to prepare the Esef report without material misstatements, whether due to fraud or error.

***Auditor's responsibility***

Our responsibility is to obtain reasonable assurance whether the Esef report is in all material respects prepared in a format that meets the requirements of Chapter 16, Section 4(a) of the Swedish Securities Market Act (2007:528), based on the procedures performed.

RevR 18 requires us to plan and execute procedures to achieve reasonable assurance that the Esef report is prepared in a format that meets these requirements.

Reasonable assurance is a high level of assurance, but it is not a guarantee that an engagement carried out according to RevR 18 and generally accepted auditing standards in Sweden will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the Esef report.

The firm applies International Standard on Quality Management 1, which requires the firm to design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

The examination involves obtaining evidence, through various procedures, that the Esef report has been prepared in a format that enables uniform electronic reporting of the annual accounts and consolidated accounts. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement in the report, whether due to fraud or error. In carrying out this risk assessment, and in order to design audit procedures that are appropriate in the circumstances, the auditor considers those elements of internal control that are relevant to the preparation of the Esef report by the Board of Directors and the Managing Director, but not for the purpose of expressing an opinion on the effectiveness of those internal controls. The examination also includes an evaluation of the appropriateness and reasonableness of assumptions made by the Board of Directors and the Managing Director.

The procedures mainly include a validation that the Esef report has been prepared in a valid XHMTL format and a reconciliation of the Esef report with the audited annual accounts and consolidated accounts.

Furthermore, the procedures also include an assessment of whether the consolidated statement of financial performance, financial position, changes in equity, cash flow and disclosures in the Esef report have been marked with iXBRL in accordance with what follows from the Esef regulation.

Deloitte AB, was appointed auditor of Volvo Car AB (publ.) by the general meeting of the shareholders on the 2022-05-11 and has been the company's auditor since 2010-06-22.

Göteborg March 8, 2023
Deloitte AB

Jan Nilsson
Authorized public accountant

# OUR SUSTAINABILITY PERFORMANCE

## TABLE OF CONTENTS



# Stakeholder engagement

Volvo Cars has identified stakeholders that have environmental, social and governance interests or are potentially affected by our activities linked to our purpose, products, and business model. Dialogues with these stakeholders are performed to ensure meaningful engagement through open and continuous communication that allows us to discuss and manage questions as they evolve. Following our public listing on the Stockholm Nasdaq, in 2021, we have specifically focused on structured dialogues with shareholders and in 2022 we met 15 of our largest owners to specifically discuss sustainability questions. Moving forward, we will expand our structured stakeholder dialogues to other key groups. In addition, we have ongoing stakeholder dialogues through interviews, surveys, networks, conferences, website inquiries, requests from citizen@volvocars.com and our Tell-us reporting line.

The table gives an overview of our main stakeholder groups, examples of main ESG topics of interest and how we interact with the different groups (in addition to the materiality analysis).

| Stakeholder groups | Examples of Stakeholder main ESG topics of interest (non-exhaustive) | Main internal Volvo Cars stakeholder interface(s) | Examples of stakeholder dialogue types and frequency (yearly*, Quarterly/monthly**) (non-exhaustive) |
|---|---|---|---|
| Academia (universities/schools) | Carbon footprint reduction<br>Resource efficiency and circularity<br>Sustainable work life | People Experience Departments with topic expertise | School fairs*<br>Guest lectures*<br>Thesis and scholarships* |
| Authority, Politicians, Governments | Carbon footprint reduction<br>Resource efficiency and circularity<br>Ethical leadership and human rights | Public Affairs<br>Sustainability Team | Meetings with governmental representatives, including the European Commission. *<br>Conferences and round table participation** |
| Communities | Societal and community engagement<br>Carbon footprint reduction<br>Traffic Safety | People Experience<br>Regions/National Sales Companies | Local community engagement, see local initiatives** |
| Customers | Ethical Leadership<br>Traffic Safety<br>Sustainable work life<br>Carbon footprint reduction | Commercial Cluster with Regions/NSCs/ Direct sales/ Customer Care | Throughout the customer journey process with the buying and usage of our products and services** |
| Retailers | Traffic safety<br>Carbon footprint reduction<br>Ethical Leadership<br>Competence development | Commercial Cluster with Regions/NSCs | Retailer meetings and negotiations**<br>Retailer trainings*<br>Retailer audits* |
| Industry Associations | Carbon footprint reduction<br>Resource efficiency and circularity<br>Responsible sourcing<br>Ethical Leadership and human rights | Public Affairs<br>Concerned Functions | Memberships in industry associations*<br>Meetings including conferences and round table participation* |
| Investors and Banks | Carbon footprint reduction<br>Responsible sourcing<br>Ethical leadership and human rights<br>Diversity | Investor Relations<br>Sustainability Team | Focused stakeholder dialogues**<br>Owner meetings and AGM*<br>Investor and bank calls** |
| Media | Carbon footprint reduction<br>Workforce and sustainable work life<br>Responsible sourcing | Communications<br>Sustainability Team | Media interviews**<br>Media coverage**<br>Events and product launches* |
| NGOs | Ethical Leadership and human rights<br>Responsible sourcing<br>Carbon footprint reduction | Public Affairs<br>Sustainability Team | Meetings and inquiries**<br>Conferences**<br>Events** |
| Suppliers | Responsible sourcing<br>Carbon footprint reduction<br>Sustainable work life | Procurement | Supplier dialogues*<br>Contract negotiations**<br>Supplier audits* |
| Employees and Union Representatives | Sustainable work life<br>Ethical Leadership and human rights<br>Carbon footprint reduction<br>Workforce | People Experience<br>Line managers | GLINT employee surveys**<br>People development plans and manager dialogues*<br>Union dialogues** |

# Materiality analysis

Stakeholder engagement helps us identify material topics and manage our primary impact, both positive and negative. It provides valuable input for our sustainability ambitions and execution, as well as our corporate strategy. In additional to stakeholder dialogues, we have conducted an international survey, in which all stakeholder groups were asked to prioritise Volvo Cars' sustainability-related topics. We have conducted this survey regularly since 2014. Due to updates of the requirements in GRI related to materiality assessments, we have examined our economic, environmental, and social impact within our material topics. From the results of this analysis and in compliance with new legislation, we have increased our focus on human rights. We will perform a new materiality analysis in 2023, in accordance with upcoming legal requirements, such as the European Union's Corporate Sustainability Reporting Directive (CSRD).

**List of material topics**
The following are the most important sustainability areas for Volvo Cars to address (in order of importance for stakeholders):

- Carbon footprint reduction (including electrification)
- Ethical leadership
- Responsible sourcing
- Resource efficiency and circularity
- Workforce
- Data privacy and protection
- Sustainable work life
- Electrification ecosystem
- Minimising water and waste
- Improving biodiversity impact
- Green and responsible financing
- Societal and community engagement
- Traffic safety
- Mobility solutions and services
- Autonomous driving

As in our previous materiality analysis, carbon footprint reduction remains the most important topic, with ethical leadership still high on the list. Responsible sourcing is of high importance to stakeholders, particularly in relation to batteries. Responsible battery sourcing has also been raised regularly in stakeholder dialogues with investors, the media, and NGOs.

**Our sustainability ambitions**
Materiality analysis and input from our stakeholders have been aligned with our internal strategies, scenario and gap analyses, risk assessments, benchmarking, forecasts, and consumer perception data, to define what we consider the most relevant topics. From this analysis, we have defined our Sustainability Focus Areas, as well as our Ambitions and Strategic Initiatives.

CLIMATE ACTION CIRCULAR ECONOMY ETHICAL & RESPONSIBLE BUSINESS

CLIMATE ACTION

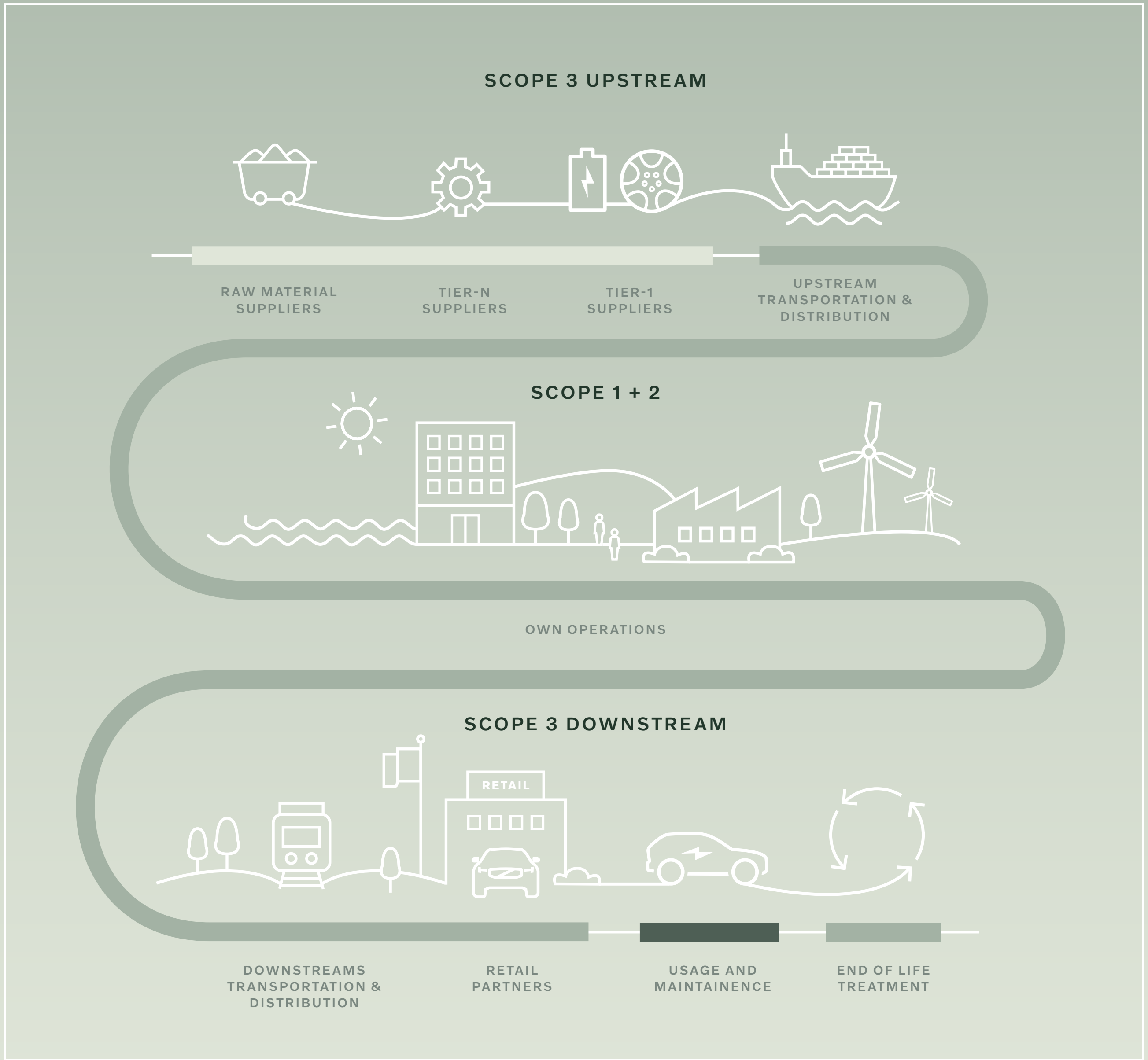
# Climate Action
## value chain

It is our ambition to be a climate neutral company by 2040. This requires reducing emissions throughout our value chain, as far as possible, including emissions from our operations, supply chain, and tailpipe emissions. However, we recognise that we will not be able to completely eliminate all emissions, and that residual emissions will need to be neutralised.

SUPPLY CHAIN EMISSIONS

OPERATIONAL EMISSIONS

TAILPIPE EMISSIONS AND OTHER USE PHASE EMISSIONS



CLIMATE ACTION

## Reducing lifecycle emissions

Lifecycle assessments (LCAs) of our fully electric vehicles provide vital information that shapes our climate strategy. Our LCAs offer these key conclusions:

- The transition to fully electric cars is critical. Tailpipe emissions from comparable petrol-driven cars contribute to a majority of their total lifecycle emissions. Even when charging the car with electricity corresponding to the global energy mix, the fully electric XC40 Recharge and C40 vehicles have a lower lifetime carbon footprint than their petrol-powered equivalent. By charging with climate neutral electricity, the vehicles' lifetime emissions can be almost halved.
- Most supply chain emissions from our electric cars are caused by aluminium, steel and iron, and lithium-ion batteries. The use of climate-neutral energy and low-emission or recycled materials can significantly reduce emissions in the supply chain.

| Emissions breakdown[2)] (kilo tonnes $CO_2$) | **2022** | 2021 | 2020 | 2019 Base year | 2018 Base year |
|---|---|---|---|---|---|
| Tailpipe emissions (GHG Protocol: Use of sold products, Combustion of fuels) | 15,839 | 17,924 | 20,480 | 24,345 | 23,785 |
| Operational emissions (GHG Protocol: All other categories) | 2,387 | 2,385 | 2,407 | 2,590 | 2,497 |
| Supply chain emissions (GHG Protocol: Purchased goods and services) | 12,102 | 11,650 | 11,068 | 11,327 | 10,435 |
| **Total** | **30,328** | **31,959** | **33,955** | **38,262** | **36,717** |
| Other use-phase emissions (GHG Protocol: Use of sold products, Production and distribution of fuel and electricity) | 7,702 | 7,202 | 6,701 | 6,349 | 5,865 |
| **Grand Total** | **38,030** | **39,161** | **40,656** | **44,611** | **42,582** |

| GHG Protocol[2)] (kilo tonnes $CO_2$) | | **2022** | 2021 | 2020 | 2019 Base year | 2018 Base year |
|---|---|---|---|---|---|---|
| **Scope 1 (Direct GHG emissions)** | Company facilities | 67 | 72 | 77 | 87 | 83 |
| | Company vehicles | 6 | 7 | 9 | 12 | 12 |
| | **Total** | **73** | **79** | **86** | **99** | **95** |
| **Scope 2 (Indirect GHG emissions)** | Purchased electricity, steam, heating and cooling | 40 | 43 | 98 | 128 | 93 |
| | **Total** | **40** | **43** | **98** | **128** | **93** |
| **Scope 3 (Upstream indirect GHG emissions)** | Purchased goods and services | 12,102 | 11,650 | 11,068 | 11,327 | 10,435 |
| | Transportation and distribution | 770 | 625 | 639 | 680 | 596 |
| | Waste generated in operations | 7 | 7 | 7 | 8 | 8 |
| | Business travel | 33 | 12 | 15 | 75 | 100 |
| | Employee commuting | 70 | 40 | 40 | 70 | 70 |
| | Leased assets | — | 8 | 19 | 14 | — |
| | **Total** | **12,982** | **12,342** | **11,788** | **12,174** | **11,209** |
| **Scope 3 (Downstream indirect GHG emissions)** | Transportation and distribution | 486 | 413 | 350 | 343 | 396 |
| | Use of sold products | 23,541 | 25,126 | 27,181 | 30,694 | 29,650 |
| | *– Production and distribution of fuel and electricity* | 7,702 | 7,202 | 6,701 | 6,349 | 5,865 |
| | *– Combustion of fuel* | 15,839 | 17,924 | 20,480 | 24,345 | 23,785 |
| | End of life treatment of sold products | 402 | 404 | 399 | 419 | 385 |
| | Leased assets | 4 | 4 | 4 | 4 | 4 |
| | Retailers | 502 | 750 | 750 | 750 | 750 |
| | **Total** | **24,935** | **26,697** | **28,684** | **32,210** | **31,185** |
| | **Grand Total** | **38,030** | **39,161** | **40,656** | **44,611** | **42,582** |

For further definitions and reporting principles see page 194–196.

## Tailpipe emissions

### *Electrification ecosystem*

Our electrification strategy will lead to a significant reduction in tailpipe emissions. We currently have three fully electric cars in our product range and aim to only manufacture all-electric vehicles by 2030. This is 10 years ahead of the science-based target for our industry, as set out in the Glasgow Declaration on Zero Emission Vehicles launched at COP26. However, merely producing fully electric vehicles will not make the shift to electrification successful. We support and encourage our customers to choose all-electric cars by focusing on four main areas:

1. **Battery strategy** – through providing competitive offers, in terms of energy efficiency, charging speed and range, and securing sustainable batteries.
2. **Charging** – through offering a premium, consistent user experience, whether the car is charged at home, while travelling or at retailers.
3. **Energy Management** – through providing easy access to renewable energy, helping consumers reduce their $CO_2$ footprint in the usage phase, and enabling bi-directional charging.
4. **Financial impact** – through offering information on the total cost of ownership and the residual value of electric vehicles.

### *Energy management*

Although electrification is vital from an environmental perspective, it puts strain on power grids. At the same time, the increasing availability of renewable energy is creating a more volatile energy market. Energy management is an emerging technology that addresses these challenges and helps enable greater flexibility and efficiency within the current infrastructure. We support power grids by offering our customers energy management systems and smart charging options, with the recent launch of the Volvo EX90 which is enabled for bi-directional charging and vehicle to grid solutions.

### *Use phase emissions*

Continuous monitoring of vehicle fleet tailpipe emissions, changes in product mix and developing efficient technological solutions are key factors in meeting and exceeding the requirements of current and future emissions legislation. Average $CO_2$ tailpipe emissions decreased from 139 g/km to 122 g/km between 2021 and 2022, which was primarily due to increased sales of our Recharge cars.

Charging with climate neutral electricity is vital to reducing the total use phase emissions of electric vehicles, although this factor is largely dependent on the electricity grid mix of local and national electricity suppliers.

| Electrified vehicles | 2022 | 2021 | 2020 | 2019 |
|---|---|---|---|---|
| Fully electric vehicles (BEVs) sold | 66,749 | 25,727 | 4,659 | — |
| Fully electric vehicles (BEVs) sold (%) | 10.9 | 3.7 | 0.7 | — |
| Plug-in hybrid electric vehicles (PHEVs) sold | 138,603 | 189,216 | 115,436 | 45,933 |
| Electrified vehicles sold* (%) | 33.4 | 27 | 17 | 7 |
| Energy efficiency BEV[4] (average) (Wh/km) | 198 | 234 | 241 | — |

* Electrified vehicles is defined as plug-in hybrids and fully electric vehicles.

| Tailpipe emissions[5] | 2022 | 2021 | 2020 | 2019 |
|---|---|---|---|---|
| Total $CO_2$ tailpipe emissions avoided[6] (kilo tonnes) | 1,870 | 750 | 150 | — |
| $CO_2$ emissions of products – Global fleet average* (g/km, WLTP) | 122 | 139 | 155 | 173 |

* Scope updated, now being estimated based on a global fleet, resulting in adjustment of previous reporting years.

| Emissions per average vehicle | 2022 | 2021 | 2020 | 2019 Base year | 2018 Base year |
|---|---|---|---|---|---|
| Total $CO_2$ emissions per vehicle[1,2,3] (tonnes) | 46.8 | 49.7 | 51.6 | 54.3 | 54.9 |
| Tailpipe $CO_2$ emissions per vehicle[1,2,3] (tonnes) | 24.4 | 27.9 | 31.1 | 34.5 | 35.6 |
| Supply chain $CO_2$ emissions per vehicle[1,2,3] (tonnes) | 18.7 | 18.1 | 16.8 | 16.1 | 15.6 |
| Operations $CO_2$ emissions per vehicle[1,2,3] (tonnes) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| SBTi target – Scope 1 and 2[2,7]* (%) | –50.2 | –46.3 | –18.9 | Baseline | — |
| SBTi target – Scope 3 Use of sold products[2,3,7]*(%) | –16.6 | –10.2 | –5.2 | Baseline | — |
| Emission intensity (tonnes $CO_2$/MSEK revenue) | 115 | — | — | — | — |

* These 2030 climate action ambitions are in line with the 1,5-degree scenario as verified by the Science-Based Targets initiative (SBTi) – a partnership between CDP, the United Nations Global Compact, World Resources Institute (WRI) and the World Wide Fund for Nature (WWF).

For further definitions and reporting principles see page 194–196.

## Supply chain emissions

In order to reduce emissions in our supply chain, our directly contracted suppliers are requested to use one hundred per cent climate-neutral energy by 2025. In 2022, 14 per cent of our supplier sites have reported that they during 2021 had one hundred percent climate neutral energy at their manufacturing sites. All new suppliers are required to present a roadmap showing how they will reach one hundred per cent climate-neutral energy consumption by 2025, unless they have already met this goal. This requirement plays an important role in enabling us to select business partners that share our strategic ambitions. In the autumn 2022 we started to collect supplier commitments to reach 100 per cent climate neutral energy by 2025. At the end of 2022 12 per cent of our active supplier sites have signed this commitment.

| Directly contracted suppliers, climate-neutral energy consumption (%) | 2022 | 2021 | 2020 | 2019 |
|---|---|---|---|---|
| Climate neutral energy at Tier 1 suppliers[9)] | 19.0 | 8.5 | 6.0 | — |
| Share of Tier 1 suppliers having signed a commitment to reach 100% climate neutral energy by 2025 | 12.0 | — | — | — |

For further definitions and reporting principles see page 194–196.

Progress is tracked in an annual environmental assessment. In 2022, consumption of climate-neutral energy among our directly contracted supplier sites increased from 8.5 to 19 per cent. This is the result of focusing on this topic in supplier dialogues, business reviews and negotiation, as well as increased availability of climate neutral energy.

As participants in the Carbon Disclosure Project (CDP) Supply Chain Program 2022, we also collected data from their climate questionnaire for our top 133 strategic suppliers (based on emission-intensive product categories, as well as spend). The results of the report show that these suppliers used 8 per cent renewable energy in 2021 in their global operations. We will continue to collect supplier data, on an annual basis, in order to track our supplier's climate action and focus on improvements that will make the greatest impact.

In order to reduce supply chain emissions further, we are targeting components and materials with high $CO_2$ impact, such as aluminium, steel and batteries. As the majority of the $CO_2$ emissions from aluminium production is caused by smelting, we are directing our suppliers to approved aluminium smelters that use climate-neutral electricity in the refining process. In 2022, we increased the number of approved smelters.

In 2022, Volvo Cars became the first carmaker to join the SteelZero initiative, which aims to increase demand for near-zero-emission steel and accelerate the transition to carbon neutrality in global steel production. SteelZero was launched by the Climate Group, in partnership with Responsible Steel, a steel industry standard and certification body, of which Volvo Cars is also a member. Through Responsible Steel, Volvo Cars gains access to reliable, third-party verified and audited information about its steel supply chain and relevant sustainability credentials.

Already, Volvo Cars is in partnership with SSAB in jointly exploring the use of near-zero emission automotive-grade steel through their HYBRIT project. We are aiming to be the first carmaker to use this steel in our own production.

In 2022, Volvo Cars announced plans to build a battery factory in Gothenburg, in a joint venture with battery manufacturer Northvolt. In order to reduce our carbon footprint in this currently emission intensive area of production, the facility will aim to consume only climate-neutral energy and serve all our manufacturing plants in Europe.

## Operational emissions

***Manufacturing operations***

We aim to make our manufacturing operations climate neutral by 2025. Our manufacturing facilities consumed 66 per cent climate neutral energy (including 94 per cent climate neutral electricity) in 2022, with total $CO_2$ emissions amounting to 95,500 tonnes.

We define a manufacturing plant as climate neutral if the electricity and heating it consumes causes no net increase in the emission of greenhouse gases. However, our ambition is dependent on the provision of climate neutral heating and electricity, which is not currently available at all our production facilities.

Our approach is based on three main activities:

1. Reducing energy consumption through efficiency improvements and energy recovery
2. Using climate neutral energy from energy and utility suppliers
3. On-site generation and extraction of renewable energy

*Energy consumption improvements in 2022*

Energy efficiency measures at our production plants reduced annual energy consumption by 32 GWh. We have carried out systematic energy saving projects since 2010, which resulted in direct and indirect savings of approximately 38 MSEK during 2022. Examples of the most significant energy conservation measures completed in 2022 include exchanging VOC-abatement and intermediate ovens from gas to electric in one plant, continuous work with non-production energy usage reduction at all plants, optimisations of start-up and shut down of ovens as well as LED-lighting projects globally.

Our Taizhou production facility, in China, secured a supply of climate neutral electricity, making a significant contribution to our climate-neutral manufacturing ambition. Also, we increased the number of solar panels at the facility.

Solar panels and wind turbines at our production facilities generated 46 GWh, with on-site power generation accounting for 8 per cent of the electricity consumption in our manufacturing plants.

***Non-manufacturing operations***

Our aim for climate neutral non-manufacturing operations by 2025 includes $CO_2$ emissions from electricity and heating used in all the offices we own and lease, as well as our showrooms, warehouses, and research and development facilities. In 2022, we reduced total emissions at these facilities with 41 per cent compared to 2021, and with 30 per cent compared to our baseline year of 2018. Our Asia Pacific headquarters made the greatest contribution, due to the installation of solar panels and securing a supply of hydropower electricity.

CLIMATE ACTION

| Energy types and properties MWh[10] | | 2022 | 2021 | 2020 | 2019 |
|---|---|---|---|---|---|
| **Manufacturing Operations[11,21]** | | | | | |
| Total energy use[12] (direct and indirect) | Europe | 582,000 | 626,000 | 647,000 | 726,500 |
| | Asia | 382,000 | 312,000 | 332,000 | 358,000 |
| | Americas | 96,000 | 92,000 | 92,000 | 131,800 |
| | **Total** | **1,060,000** | **1,030,000** | **1,071,000** | **1,216,300** |
| **Non-manufacturing Operations[13,19]** | | | | | |
| Total energy use[12] (direct and indirect) | Europe | 169,000 | 181,000 | 206,000 | 189,000 |
| | Asia | 21,000 | 23,000 | 22,000 | 20,000 |
| | Americas | 10,000 | 10,000 | 8,000 | 6,000 |
| | **Total** | **200,000** | **214,000** | **236,000** | **215,000** |
| | **Grand Total** | **1,260,000** | **1,244,000** | **1,307,000** | **1,431,300** |
| **Energy consumption intensity[14]* (MWh/SEK revenue)** | | **3.8** | **4.4** | — | — |
| **Energy usage per vehicle in manufacturing operation[11,21]** (MWh/vehicle)** | | | | | |
| | Europe | 1.4 | 1.4 | 1.5 | 1.5 |
| | Asia | 1.5 | 1.8 | 2.0 | 2.2 |
| | Americas | 8.9 | 5.8 | 4.1 | 3.8 |
| | **Average** | **1.5** | **1.6** | **1.7** | **1.8** |
| **Energy usage reduction per vehicle in manufacturing operations[8,11,21] (%) (2018 baseline – 1.8 MWh/vehicle)** | | –13 | –7 | –12 | –7 |

*All types of energy included
**Manufactured vehicles data received from each site.

| Energy types and properties[10] | 2022 | 2021 | 2020 | 2019 |
|---|---|---|---|---|
| **Manufacturing Operations[11,21]** | | | | |
| Climate neutral electricity (%) | 94 | 94 | 84 | 79 |
| Climate neutral energy (i.e. including heating) (%) | 66 | 64 | 56 | 54 |
| Climate neutral energy in manufacturing operations (%) | 66 | 62 | 53 | 50 |
| Renewable electricity (%) | 93 | 93 | 83 | — |
| Renewable energy, i.e. including heating (%) | 54 | 49 | 44 | — |
| On-site generation of renewable energy[15] (MWh) | 46,000 | 25,000 | 27,000 | 14,000 |
| Energy efficiency savings* (GWh) | 32 | 37 | 56 | 57 |
| Energy efficiency savings* (MSEK) | 38 | 18 | 29 | 32 |
| **Non-manufacturing Operations[13,19]** | | | | |
| Climate neutral electricity (%) | 87 | 80 | 80 | 82 |
| Climate neutral energy, i.e. including heating (%) | 83 | 77 | 81 | 61 |
| Renewable electricity (%) | 87 | 80 | 80 | 82 |
| Renewable energy, i.e. including heating (%) | 65 | 57 | 53 | 61 |
| On-site generation of renewable energy[16] (MWh) | 3,000 | 2,000 | 1,000 | 1,000 |

*Based on FY data, other data in table is reported from 1 December 2021–30 November 2022
For further definitions and reporting principles see page 194–196.

***Logistics***
2022 saw supply chain constraints and disruptions throughout the global logistics sector. As a result, $CO_2$ emissions from transportation increased by 21 per cent per car, compared to 2021, primarily due to a greater use of air freight and extended shipping routes. We are currently strengthening the resilience of our supply chain and aiming to return to pre-pandemic levels of emissions from transportation. We aim to minimise emissions from transportation through initiatives to reduce overall distances, ensuring high filling degree and using the best possible transport mode for each route.

***Retailer network***
Our ambition is to help our retail partners reduce emissions from their operations and facilities by 50 per cent between 2018 and 2025. During 2022, data collection at over 1500 retailers through the new Facilities Environmental Sustainability Tool (with over 95 per cent response rate) shows a reduction of 33 per cent, compared to 2018 levels. Some of this can be attributed to lingering COVID-19 effects, such as lower activties at retailers, but there has been a strong commitment from many retailers and national sales companies.

## $CO_2$ performance is key

To ensure we are on course to becoming a climate neutral company by 2040, we have increased our efforts to improve $CO_2$ performance by factoring $CO_2$ emissions into all major decisions. Updating key processes and improving our digital tools for collecting $CO_2$ data provide us with solid capabilities to monitor and steer us towards our climate action ambitions.

Having $CO_2$ data available in key processes, digital tools in place, and $CO_2$ integrated in incentive models, is fundamental for implementing our internal carbon price of 1,000 SEK for every tonne of $CO_2$ emissions. The internal carbon price, introduced in 2021, intends to future-proof decisions by helping us identify cost-efficient $CO_2$ reduction measures.

# Circular Economy

## The impact of circular business

As manufacturers and mobility providers, we aim to reduce our consumption of resources and prioritise the use of recycled materials, to mitigate our negative impact on the planet.

**We aim to achieve this through the adoption of circular business principles throughout our value chain:**

1. Use less resources by improving efficiency, making materials circular and circulating them at maximum value
2. Eliminate all waste and pollution by designing products and operations for long and high utilisation lifecycles.
3. Enable growth beyond vehicle sales by offering services and solutions to all Volvo users and products

**We have two overarching ambitions for circular business.**

In 2025 we aim to annually:

↓

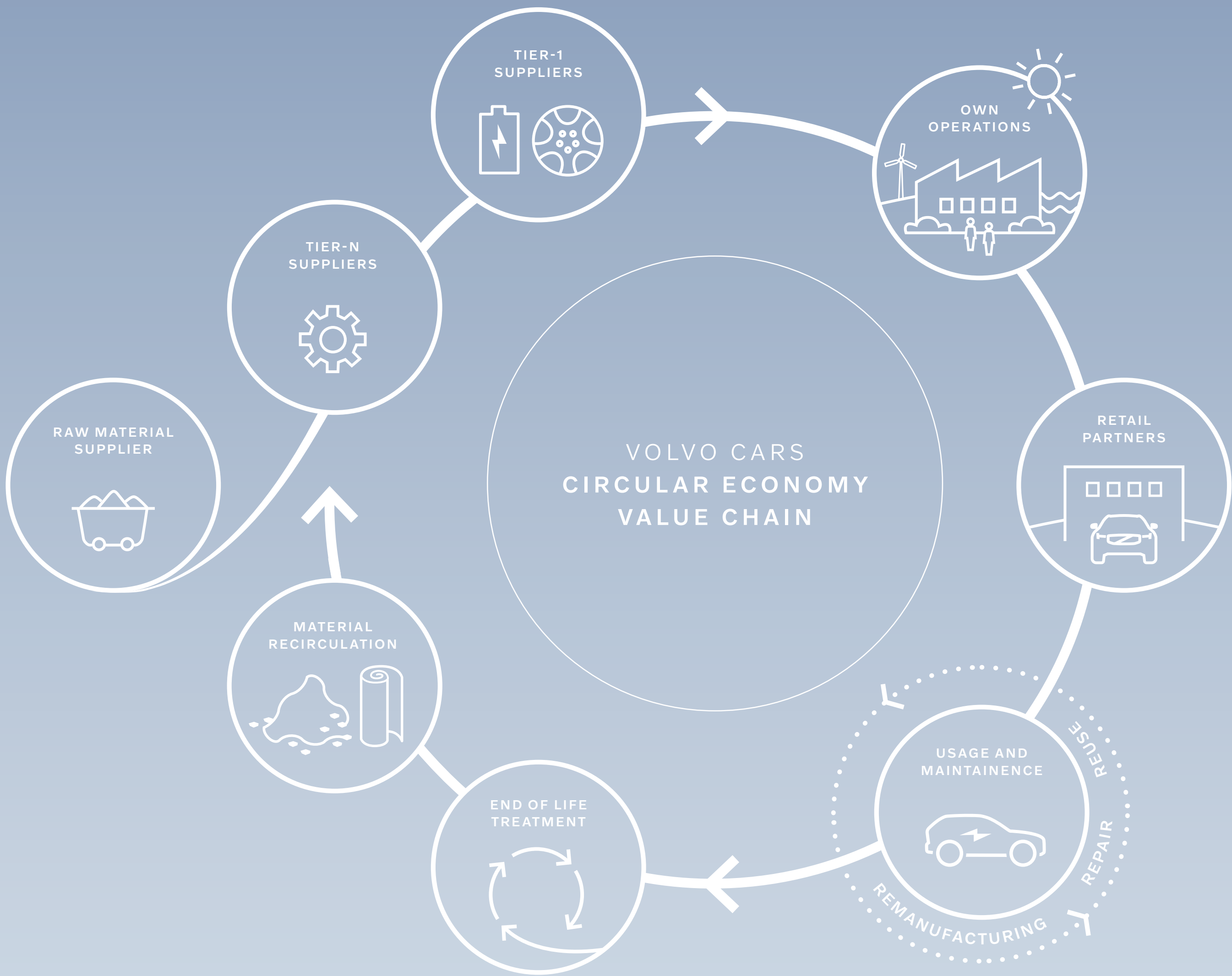
**Generate cost savings and new revenue streams worth one billion SEK**
(from a 2018 baseline):

In 2022 we improved the efficiency of component value retention and waste trading to enable circular flows profitably. Volvo on Demand continues to deliver mobility as a service while displacing the need for new vehicles.

↓

**Reduce $CO_2$ emissions by 2,500 kilo tonnes**
(from a 2018 baseline):

In 2022 we have made progress to ensure recycled content for upcoming vehicles, improved our waste management systems and increased component value retention to support the contribution to $CO_2$ savings.



CIRCULAR ECONOMY

Rapid electrification and the increased use of electronic components increases our exposure to raw material risks. Supply of sustainable materials, such as recycled steel, aluminium, copper, plastic, and content for batteries is limited, while demand is significantly increasing. Proactive involvement in the recycling industry and direct sourcing, as is the case for battery materials, can reduce the risk of supply shortage and price volatility.

Reporting requirements on biodiversity and nature will soon require organisations to account more comprehensively on their environmental impact, in addition to $CO_2$ emissions. In 2022, we carried out a baseline study on the environmental impact of our vehicles and facilities (see section Biodiversity on this page).

We are members of the Ellen MacArthur Foundation and use their Circulytics® annual reporting tool. The results (see page 192) help us to identify areas for improvement and monitor our progress towards becoming a circular business.

We take an evidence-based approach to quantifying our environmental impact throughout the value chain. In 2023, we will establish baseline figures to quantify changes in our total resource consumption, in relation to biodiversity, water, and pollution impact, and define our methodology to be used in LCAs and reporting.

### *Decoupling growth from resource consumption*

We regard decoupling resource use from business growth as the ultimate ambition of a circular business. We will use resource productivity – revenues generated per tonne of virgin material used, across the value chain – as a measure to assess decoupling. Initially, we will measure the use of materials although we intend to include energy and water use in the future.

### *Biodiversity*

The variety of life on our planet is under enormous pressure and we recognise that Volvo Cars has a negative impact. We aim to engage in activities that support the halting and reversing of nature loss as well as contributing to support a Nature Positive future.

We have calculated that 544 hectares (19 per cent of total HA) of our manufacturing and office sites are in, or adjacent to Key Biodiversity Areas (KBAs), including all sites that we own or lease.

In 2022, we made an initial assessment of the biodiversity impact throughout our value chain, in collaboration with external experts. Using the ReCiPe model[29] our evaluation indicated that the major impact occurs mainly upstream in our value chain with the largest impact being caused by terrestrial ecotoxicity. The result is given in a range of 'species.yr' where the lower value is the result without ecotoxicity and the higher is including ecotoxicity. The reasons for this is the relatively high uncertainties of available underlaying data for ecotoxicity.

The assessment highlighted the need to reduce our consumption of non-renewable materials and increase our use of recycled material content. We are in the process of formulating a strategy to minimise biodiversity impact through, among others, circular economy activities, including high-impact materials, such as steel, aluminium, copper and battery contents but also engaging with suppliers on eg best practices standards and verifying their commitments within biodiversity. Other important actions could be to establish programs on pollution in key production sites as well a protection and restoration activities in ecosystems where we operate. Moreover, we follow the development of Taskforce on Nature-related Financial Disclosures (TNFD).

| Biodiversity – Land use and ecological sensitivity | 2022 | 2021 | 2020 | 2019 |
|---|---|---|---|---|
| Sites in or adjacent to KBA[28)]* (location of adjacent sites) | 21 | 16 | — | — |
| Hectares in or adjacent to KBA[28)]* | 544 | 537 | — | — |
| Share of hectares in or adjacent to KBA[28)]* (%) | 19 | 19 | — | — |
| Estimated impact on biodiversity from Volvo's value chain[29)] (range of units of species.year) | 171–547 | — | — | — |

* Methodology changed due to analysis made in 2022; to include sites with a distance to KBA of 5 km. The 2021 results have been adjusted accordingly and have resulted in numbers more than doubled compared to the 2021 Annual and Sustainability Report.

## Resource value retention

Our carbon, water, waste and biodiversity impact is primarily caused by the supply of materials we use in our vehicles. We need to make better use of these materials, ensuring we maximise their lifespan and value. In order to achieve this, we have set some short-term goals.

Resource value retention ambitions for 2025:

- 55 per cent material utilisation for stamped steel and aluminium parts
- New models contain 25 per cent recycled and bio-based materials[22)].

In 2022, we had a nearly 50 per cent utilisation rate of the material from the stamping within our production. We have already secured closed loop recycling of aluminium sheets in our European operations. Meanwhile, the average level of recycled content in our vehicles stands at 10 per cent. This will improve as new vehicle models are being launched.

| Material value retention in vehicles (%) | 2022 | 2021 | 2020 | 2019 |
|---|---|---|---|---|
| Recycled and bio-based materials[22,23)]* | 10 | 10 | — | — |
| Recycled plastics and bio-based materials[22, 24)]* | 4 | 4 | — | — |
| Recycled steel[24)]* | 15 | 15 | — | — |
| Recycled aluminium[24)]* | 10 | 10 | — | — |

*Based on estimates.
For further definitions and reporting principles see page 194–196.

## CIRCULAR ECONOMY

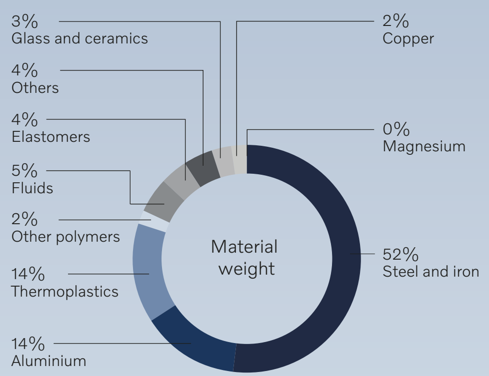
***Material break down per car model***

Estimated resource consumption for an average vehicle, for each model, and total material consumption for our 2022 fleet.

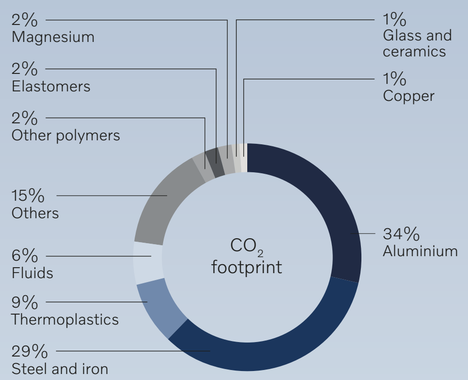
| | | | | | | TB Twin Engine | | | BEV | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Material breakdown per vehicle model (kg)** | **XC40** | **V60** | **XC60** | **V90** | **XC90** | **S60** | **XC60** | **S90L** | **XC40** | **C40** | **Total material in fleet* (kilo tonnes)** |
| Steel and iron | 999 | 878 | 985 | 875 | 1,177 | 1,087 | 1,065 | 1,136 | 934 | 909 | 649 |
| Aluminium | 222 | 236 | 279 | 255 | 358 | 295 | 335 | 323 | 404 | 385 | 198 |
| Copper | 26 | 29 | 30 | 32 | 62 | 51 | 60 | 59 | 71 | 75 | 29 |
| Magnesium | 1 | 8 | 10 | 7 | 9 | 7 | 10 | 10 | 4 | 4 | 4 |
| Thermoplastics | 221 | 232 | 205 | 239 | 293 | 229 | 261 | 271 | 246 | 236 | 155 |
| Elastomers | 77 | 59 | 74 | 75 | 96 | 74 | 87 | 84 | 73 | 68 | 50 |
| Other polymers | 69 | 64 | 70 | 89 | 93 | 96 | 88 | 116 | 90 | 157 | 54 |
| Glass and ceramics | 50 | 55 | 56 | 59 | 61 | 53 | 58 | 55 | 49 | 55 | 36 |
| Fluids | 68 | 70 | 75 | 76 | 89 | 81 | 88 | 82 | 26 | 26 | 44 |
| Others | 35 | 51 | 41 | 58 | 108 | 76 | 110 | 87 | 276 | 270 | 66 |
| **Total** | **1,768** | **1,682** | **1,825** | **1,765** | **2,346** | **2,049** | **2,162** | **2,223** | **2,173** | **2,185** | **1,285** |

For further definitions and reporting principles see page 194–196.

### MATERIAL BREAKDOWN PER AVERAGE CAR (WEIGHT)**




### MATERIAL BREAKDOWN PER AVERAGE CAR ($CO_2$)***




*Estimate based on the material breakdown showed in the table and sales volumes for 2022.
**Based on weighted average of materials and sales volumes for 2022. Numbers might not add up to 100 per cent due to rounding.
***Based on emission factors per material type, weighted average of materials and sales volumes for 2022. Numbers might not add up to 100 per cent due to rounding.

## CIRCULAR ECONOMY

### *Water consumption*

The majority of water consumption occurs in our supply chain, particularly in steel production. In 2022, we joined the ResponsibleSteel initiative, which offers a global standard and certification program for more sustainable steel production, with specific requirements for water stewardship.

Manufacturing is responsible for the majority of water consumption in our operations. As we have already met our target to reduce water consumption by 15 per cent per vehicle in manufacturing between 2018 and 2025, we have raised our reduction target to 40 per cent. We are also setting targets for our offices, logistic centres, research, development and testing facilities, which account for approximately 19 per cent of our total water consumption.

| Water | | 2022 | 2021 | 2020 | 2019 |
|---|---|---|---|---|---|
| **Manufacturing Operations[21] (m³)** | | | | | |
| Total water withdrawn[17]* (from third party) | Europe | 552,000 | 595,000 | 655,000 | 705,000 |
| | Asia | 902,000 | 663,000 | 851,000 | 1,047,000 |
| | Americas | 148,000 | 133,000 | 175,000 | 312,000 |
| | **Total** | **1,602,000** | **1,391,000** | **1,681,000** | **2,064,000** |
| Total water withdrawn per manufactured car[17]* (m³/vehicle) | Europe | 1.3 | 1.3 | 1.5 | 1.5 |
| | Asia | 3.5 | 3.8 | 5.0 | 6.3 |
| | Americas | 13.7 | 8.4 | 7.9 | 9.0 |
| | **Average** | **2.3** | **2.2** | **2.7** | **3.0** |
| Total water discharge[18] | Europe | 355,000 | — | — | — |
| | Asia | 543,000 | — | — | — |
| | Americas | 99,000 | — | — | — |
| | **Total** | **997,000** | **—** | **—** | **—** |
| Total water consumption** | Europe | 197,000 | — | — | — |
| | Asia | 359,000 | — | — | — |
| | Americas | 49,000 | — | — | — |
| | **Total** | **605,000** | **—** | **—** | **—** |
| **Non-manufacturing Operations[19] (m³)** | | | | | |
| Total water withdrawn[17] | Europe | 297,000 | 282,000 | 241,000 | 301,000 |
| | Asia | 57,000 | 67,000 | 62,000 | 72,000 |
| | Americas | 20,000 | 21,000 | 20,000 | 12,000 |
| | **Total** | **374,000** | **370,000** | **323,000** | **385,000** |
| **Total Volvo Cars operations** | | | | | |
| Total water withdrawn[17]* | | 1,976,000 | 1,761,000 | 2,004,000 | 2,449,000 |
| Total water withdrawn per manufactured car[17]* (m³/vehicle) | | 2.9 | 2.7 | 3.0 | 3.5 |
| **Water usage reduction per vehicle in manufacturing[8,11,21] (2018 baseline – 2.9 m³/vehicle)** | | –30 | –23 | –8 | –5 |
| **Water consumption and withdrawal in water-stressed areas[17]*** | | | | | |
| Megaliters of water withdrawn in areas with high or extremely high baseline water stress*** (Manufacturing & Non-manufacturing operations) | | 462 | 546 | — | — |
| Share of water withdrawn in areas with high or extremely high baseline water stress*** (Manufacturing & Non-manufacturing operations) (%) | | 23 | 31 | — | — |
| Megaliters of water consumed in areas with high or extremely high baseline water stress (Manufacturing) | | 134 | — | — | — |
| Share of water consumed in areas with high or extremely high baseline water stress (Manufacturing) (%) | | 22 | — | — | — |

*Water withdrawn was called water used in previous reports
**Water consumption = Water withdrawal-water discharge.
***Methodology changed to exclude evaporation and include non-manufacturing operations. The 2021 results have been adjusted accordingly and have resulted in an increase from 355 to 546 and a decrease from 34% to 31% compared to the 2021 Annual and Sustainability Report.
For further definitions and reporting principles see page 194–196.

***Steel***
Iron and steel account for the largest percentage of material content in our vehicles. To mitigate the environmental impact of our future models, we are securing supplies of recycled and low-emission steel. Our target is to use 25 per cent recycled steel in our vehicles by 2025. We are seeking closed-loop recycling solutions for steel waste at our manufacturing facilities and to recirculate material in high-value applications. In 2022, Volvo Cars joined two non-profit initiatives, Responsible Steel and SteelZero, that address sustainability issues in iron and steel production. Our long-term ambition (around 2030) is to have the steel in all our vehicles certified by ResponsibleSteel or equivalent, to ensure that sustainability issues related to steel are addressed in our supply chain.

***Aluminium***
To make a positive impact on our carbon and biodiversity footprint, we aim to use 40 per cent recycled aluminium in our new models, from 2025, and have a carbon footprint target of 4 kg $CO_2$ per kg on ingot level for our consumption of primary aluminium. To support this development, we have established an approval process for all aluminium smelters in our supply chain. We are also actively working on closed-loop recycling for aluminium waste and have achieved a closed-loop solution for aluminium sheets in our European manufacturing facilities and are making good progress towards securing this in China.

***Recycled plastics and bio-based materials***
We have made significant progress in reaching our ambition to use at least 25 per cent recycled plastics and bio-based materials in our new models from 2025. The Volvo EX90 will contain around 15 per cent recycled plastics and bio-based materials (circa 48 kg) – the highest level of any Volvo to date.

To increase the use of post-consumer waste in high-performance applications we are pioneering the use of chemically recycled plastics. The roof liners in our C40 Recharge won the 2022 Plastic Recycling Award Europe, in the Automotive, Electrical or Electronic Product category.

## Component value retention

Batteries, electronics, and mechanical equipment, such as motors, are high-value components that must be kept in circulation for as long as possible.

***Component value retention***
The Volvo Cars Exchange process collects, remanufactures, and replaces parts from our dealer workshops. The components we collect are reused, wherever possible, or recycled. This year we have consulted with industry experts about how to increase this business significantly, by 2025, in order to support our environmental and financial ambitions. Remanufactured components can save up to 85 per cent of raw material and reduce energy consumption by up to 80 per cent, in comparison to the manufacture of new components.

***Battery value retention***
As part of our circular strategy for batteries, we are establishing regional battery centres in the EU, US and China to maximise battery utilisation, minimise environmental impact and enable circular material flows. Our ambition is to repair batteries that still have the potential to power electric vehicles, reducing the need for replacements. When batteries are unsuitable for repair or other applications, they are recycled in a Volvo Cars-designed process that recovers as much raw material as possible for use in the production of new batteries.

***Electronics***
On average, our fleet has around seven kilos of electronics per car. We currently have little visibility in the electronics supply chain, its raw material composition, and its impact on society and the environment. However, in 2022 we started to map and categorise the material content of central processing units and printed circuit boards. We aim to design a minimalistic system by centralising vital electronic components and reducing the number of electronic components, cabling and housings. The new Volvo EX90 has a reduced number of buttons and switch packs. We have also introduced a core computer that centralises heavy computation functions.

Some electronics are already included in our exchange program but we intend to extend it so our workshops can return faulty components in exchange for a new or remanufactured part. Parts unfit for reuse will be recycled.

| Component value retention | 2022 | 2021 | 2020 | 2019 |
|---|---|---|---|---|
| Aluminium saved due to remanufacturing (tonnes) | 155 | 132 | 126 | 144 |
| Copper saved due to remanufacturing (tonnes) | 7 | 10 | — | — |
| Steel saved due to remanufacturing (tonnes) | 284 | 260 | 271 | 341 |
| Total material saved due to remanufacturing* (weight of parts) (tonnes) | 509 | 457 | — | — |
| $CO_2$ saved from reuse of aluminium, steel and copper (tonnes) | 4,857 | 4,222 | 4,116 | 3,321 |
| Number of remanufactured parts | 33,133 | 37,567 | 39,828 | 49,408 |
| Number of batteries collected for repair, reuse, repurpose and recycle | 8,805 | 1,071 | — | — |
| Parts and components being recycled (tonnes) | 1,055 | — | — | — |

*Based on inbound volume.

CIRCULAR ECONOMY

## Product value retention

Cars are often regarded as being highly recycled. However, it's important to acknowledge that a very small proportion of the recycled material is used in new vehicles. The complexity of design in most cars requires an advanced disassembly process for the recovery of components and materials. In the short-term, we strive to optimise the value retention of existing products, while, in the long-term, we aspire to design and engineer products that will better retain their value and facilitate easier access to components and materials at the end of their life.

Moreover, we design our vehicles to be durable and extend the lifecycle through service and repair. All our products fulfil the obligations of the European End of life Vehicles Directive; at least 85 percent (by weight) of the vehicle can be reused or recycled into new materials and 95 percent can be recovered.

***Product architecture***

In 2022, Volvo Cars worked with external experts to study the scale of devaluation in the current recycling process. Based on our initial findings, there is clear scope to retain material value across multiple lifecycles. Therefore, we will work to integrate component and material value retention into future product design and architecture. This will impact both the design and assembly of our products, as well as how we work with partners in the treatment of end-of-life vehicles.

***Usage models***

An important aspect of circular business is to increase the capacity usage of our products. Volvo on Demand addresses this when offering cars as a service. An external study of Volvo On Demand in Stockholm showed that one Volvo On Demand car can replace up to 11 privately owned vehicles[25]. By working and coordinating with other fleet owners, Volvo on Demand can increase the number of vehicles it makes available to its customers, for example, by using demonstration and loan cars at retailers or other fleets, which are used less often at weekends and in the evenings.

| **Vehicle utilisation** | **2022** | 2021 | 2020 | 2019 |
|---|---|---|---|---|
| Average number of kilometres driven per vehicle – owned/leased vehicles[26] | 13,710 | 14,532 | — | — |
| Average number of kilometres driven per vehicle – Volvo on demand vehicles | 25,110 | 21,027 | — | — |
| Average number of passengers per vehicle and kilometre – owned/leased vehicles[27] | 1.84 | 1.87 | — | — |

For further definitions and reporting principles see page 194–196.

CIRCULAR ECONOMY

## Business and partnerships

Circular business requires increased collaboration across the entire value chain. In partnership with the Tech Fund, we are doing this through investing in companies that will support us on our sustainability journey, and other progressive companies. These include Circulor, a leader in blockchain technology to enhance traceability, as well as Bcomp, which develops and produces high-performance bio-based material.

We have established collaborative projects with SSAB, Novelis, Tata steel and Borealis amongst others to increase our use of low-carbon and high-recycled content materials. We are also in dialogue with component suppliers and recyclers about how to increase circularity and plan to accelerate these discussions in 2023.

## Waste elimination

Our long-term ambition is to eliminate waste across our full value chain. In 2022, we sharpened our target for reducing production waste from 20 to 40 per cent, between 2018 and 2025. This will be achieved by working with open and closed recirculation loops, changes in planning and internal processes, reducing packaging and improved material sorting.

In 2022, manufacturing generated 96 per cent of total waste from our operations (manufacturing and non-manufacturing). Metal scrap is the largest waste stream, all of which is recycled. In 2022, we initiated waste recycling initiatives at our non-manufacturing operations, including offices, logistic centres, and engineering facilities.

We require our directly contracted suppliers' sites to set year-on-year waste reduction target. A majority of our suppliers' sites met this requirement. We are also working on waste reduction initiatives in our retailer network.

| Waste (tonnes) | | 2022 | 2021 | 2020 | 2019 |
|---|---|---|---|---|---|
| **Manufacturing Operations**[21] | | | | | |
| Hazardous waste | Europe | 8,600 | 9,200 | 13,800 | 17,500 |
| | Asia | 2,000 | 1,400 | 1,600 | 2,100 |
| | Americas | 30 | 15 | 15 | 20 |
| | **Total** | **10,630** | **10,615** | **15,415** | **19,620** |
| Metal[20] | Europe | 99,000 | 134,000 | 135,000 | 153,100 |
| | Asia | 86,000 | 70,000 | 68,000 | 67,400 |
| | Americas | 3,200 | 5,000 | 6,700 | 11,400 |
| | **Total** | **188,200** | **209,000** | **209,700** | **231,900** |
| Non-hazardous waste (including metal)[20] | Europe | 188,600 | 224,000 | 220,300 | 232,000 |
| | Asia | 55,600 | 49,000 | 54,600 | 61,500 |
| | Americas | 5,260 | 5,100 | 5,500 | 9,300 |
| | **Total** | **249,460** | **278,100** | **280,400** | **302,800** |
| Total waste | Europe | 197,200 | 233,200 | 234,100 | 249,500 |
| | Asia | 57,600 | 50,400 | 56,200 | 63,600 |
| | Americas | 5,290 | 5,115 | 5,515 | 9,320 |
| | **Total** | **260,090** | **288,715** | **295,815** | **322,420** |
| Total waste per manufactured vehicle[11] (kg/vehicle) | Europe | 464 | 528 | 531 | 514 |
| | Asia | 226 | 286 | 332 | 386 |
| | Americas | 491 | 323 | 250 | 264 |
| | **Average** | **377** | **456** | **468** | **471** |
| Production waste reduction per vehicle[8,11,21] (2018 baseline - 488 kg/vehicle) | | –16 | 1 | –2 | –2 |
| Recycling rate for total waste (%) | | 94 | 96 | 95 | 94 |
| Closed loop returns of aluminum (%) | | 72 | 79 | — | — |
| Waste to landfill (%) | | 1 | 0.5 | 1 | 1 |
| **Non-manufacturing Operations**[12,19] | | | | | |
| Total waste | Europe | 8,994 | 6,121 | 5,570 | 6,369 |
| | Asia | 649 | 699 | 625 | 344 |
| | Americas | 474 | 512 | 476 | 484 |
| | **Total** | **10,117** | **7,332** | **6,671** | **7,197** |
| Recycling rate for total waste (%) | | 71 | 59 | 60 | 57 |
| Waste to landfill (%) | | 3 | 2 | 4 | 4 |
| **Total Volvo Cars operations** | | | | | |
| Total waste | | 270,208 | 296,047 | 302,486 | 329,617 |
| Recycling rate for total waste (%) | | 93 | 95 | 94 | 93 |
| Waste to landfill (%) | | 1 | 1 | 1 | 1 |
| **Supply chain** | | | | | |
| Directly contracted suppliers' sites with a waste reduction target | | 1,151 | — | — | — |
| Directly contracted suppliers' sites with a waste reduction target (%) | | 79 | — | — | — |

For further definitions and reporting principles see page 194–196.

# Ethical and responsible business

## Global people standard

We strive for working environments that nurture healthy, engaged people, within a diverse corporate culture that supports constant improvement and innovation. We would like our people to be proud ambassadors, who are inspired to make an impact. Therefore, we are determined to focus on people experience in everything we do. We aim to be an attractive employer, not only for those who are new to the company but for everyone who works at Volvo Cars.

By asking, listening and learning what our people need and value, we can improve and enrich the experience of people who work in our organisation. We use the Glint Engagement survey, which offers insight into employee engagement. Over 79 per cent of our people responded to the latest survey (Nov 2022), which asks questions based on research, that are benchmarked with nearly 900 companies and 8.2 million respondents in over 150 countries. Our most recent score was 76, which is one point above the benchmark level. We also measure Work Life Balance in the engagement survey, which was three points above the benchmark level.

As an employer of approximately 46,000 people, we have a major impact on the health, safety, working experience and professional development of our employees and work actively to provide fair employment conditions.

***People Policy***

Our People Policy prioritises health, safety, diversity, and inclusion. It also aims to ensure that labour rights are adhered to and that our operations are legally compliant and ethical, throughout the value chain. These ambitions are reflected in the progress of our human rights work that includes developing risk-based activities to efficiently detect and manage human rights risks in our operations and value chain.

The People Policy Assessment project, in line with the United Nations Guiding Principles on Business and Human Rights started in 2017. It assessed both potential and actual human rights impact through desktop assessments, interviews conducted with key external and internal stakeholders. It was followed by on-site verification including right-baerer perspective, assessment of risks, analysis of impacts and creation of action plans, follow-up of created action plans, and continued remediation in line with our Human Rights Impact assessments has followed. A yearly follow up is conducted to all our sites globally, where we verify the compliance of our People Policy.

Before selecting the site of our new Slovakian plant in 2022, we conducted a thorough analysis that included human rights assessment and stakeholder engagement.

READ MORE ABOUT SLOVAKIA STORY ON PAGE 24

Following our Due Diligence Design project, initiated in 2021, we are increasing our efforts with the ambition to meet the standards of the EU Corporate Sustainability Due Diligence Directive. Working with the guidance of these standards will lead to further expansion of our People Policy and human rights due diligence work. Our increased due diligence efforts will be risk-based.

READ MORE ABOUT DUE DILIGENCE ON PAGE 180

***Inclusion and belonging***

We aim to promote a culture of belonging that offers the freedom to be who you are and express ideas freely. In 2022, we defined our gender equality ambitions for senior leaders and connected it to long-term incentive pay. We are aiming for 34 per cent of our senior leadership positions to be filled by women by 2025 and to increase the proportion to 38 per cent by 2030. We have also started the creation of a new KPI to improve monitoring of our inclusion and belonging ambitions, based on key questions in our engagement survey.

During 2022, we have emphasised the importance of inclusion and belonging for a more diverse workforce. For us, an inclusive workplace starts with a culture of belonging that is grounded in our values, and everybody can contribute to our purpose and mission. We have expanded and increased the frequency of people dialogues and aim to create safe spaces to connect and learn more about how we can improve. Our commitment to equality impact every stage of our talent lifecycle management, including hiring practices, pay equality, training, development, retention, and advancement (examples are inclusive leadership training, mentor programs and focused development plans).

## ETHICAL & RESPONSIBLE BUSINESS

| **Inclusion (%)** | **2022** | 2021 | 2020 | 2019 |
|---|---|---|---|---|
| Women in Senior Leadership[30] | 29.6 | — | — | — |
| Women in leading positions[31] | 29.2 | 29.0 | 28.3 | 28.3 |
| Women in external recruitment and internal promotion for leading positions. | 31.0 | 32.0 | 29.4 | — |

| **Total FTE by employees and supervised workers as per December 31** | **2022** | 2021 | 2020 | 2019 |
|---|---|---|---|---|
| Employees – Global Total | 44,559 | 43,069 | — | — |
| Supervised workers (consultants) – Global Total | 3,881 | 4,017 | — | — |
| Total – Global Total | 48,440 | 47,086 | — | — |

| **Total workforce by employees and supervised workers as per December 31*** | **2022** | 2021 | 2020 | 2019 |
|---|---|---|---|---|
| Employees – Global Total | 46,345 | — | — | — |
| Blue collar | 27,502 | — | — | — |
| White collar | 18,843 | — | — | — |
| Supervised workers (consultants) – Global Total** | 3,986 | — | — | — |
| Total – Global Total | 50,331 | — | — | — |

* Head count summary as per end of 2022.
** The most common type of worker (non-employee) is white collar consultants working within Engineering.
For further definitions and reporting principles see page 194–196.

| **Total number of employees by employment contract and gender as per 31 December[37] (absolute number and %)** | **2022** | 2021 | 2020 | 2019 |
|---|---|---|---|---|
| **Women** | 11,346 (24) | 22 | | |
| Permanent contract | 10,391 (24) | 23 | — | — |
| Temporary contract | 955 (27) | 13 | — | — |
| Non-guaranteed hours employees | 0 | — | — | — |
| | | | | |
| Full-time employees | 10,114 (24) | — | — | — |
| Part-time employees | 1,232 (34) | — | — | — |
| **Men** | 34,999 (76) | 78 | | |
| Permanent contract | 32,450 (76) | 77 | — | — |
| Temporary contract | 2,549 (73) | 87 | — | — |
| Non-guaranteed hours employees | 0 | — | — | — |
| | | | | |
| Full-time employees | 32,616 (76) | — | — | — |
| Part-time employees | 2,383 (66) | — | — | — |

| **Total number of employees by region as per 31 December (absolute)** | **Europe** | **Asia** | **Americas** | **Total** |
|---|---|---|---|---|
| **Employees** | 31,755 | 12,212 | 2,378 | 46,345 |
| Permanent employees (permanent contract) | 29,098 | 11,483 | 2,260 | 42,841 |
| Temporary employees (temporary contract) | 2,657 | 729 | 118 | 3,504 |
| Non-guaranteed hours employees | 0 | 0 | 0 | 0 |
| | | | | |
| Full-time employees | 28,207 | 12,185 | 2,338 | 42,730 |
| Part-time employees | 3,548 | 27 | 40 | 3,615 |

## ETHICAL & RESPONSIBLE BUSINESS

| Breakdown of permanent contract employees by gender and age group as per December 31, 2022 (%) | Board Members[38)] | | Executive Management Team | | Senior Leaders[30)] | | Leaders[31)] | | All other white collar employees | | Blue collar employees | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women |
| <25 | — | — | — | — | — | — | — | — | 1 | 1 | 12 | 3 |
| 25–29 | — | — | — | — | — | — | 1 | 1 | 6 | 4 | 16 | 5 |
| 30–34 | — | — | — | — | — | — | 7 | 4 | 13 | 7 | 15 | 3 |
| 35–39 | — | — | — | — | 3 | 2 | 12 | 5 | 12 | 5 | 9 | 2 |
| 40–44 | 7 | 7 | — | — | 8 | 6 | 12 | 6 | 9 | 4 | 6 | 1 |
| 45–49 | — | — | 28 | 28 | 15 | 9 | 12 | 5 | 8 | 4 | 5 | 1 |
| 50–54 | 20 | 13 | — | — | 20 | 8 | 12 | 4 | 8 | 3 | 7 | 1 |
| 55–59 | 27 | 7 | 28 | 14 | 15 | 3 | 9 | 3 | 7 | 3 | 7 | 2 |
| 60–65 | 7 | 7 | — | — | 7 | 1 | 5 | 1 | 4 | 1 | 4 | 1 |
| >65 | 7 | — | — | — | 1 | — | — | — | — | — | — | — |
| **Average** | **67** | **33** | **57** | **43** | **70** | **30** | **71** | **29** | **68** | **32** | **80** | **20** |

For further definitions and reporting principles see page 194–196.

## ETHICAL & RESPONSIBLE BUSINESS

| New employee hires and employee turnover (absolute and %)* | **2022** | 2021 | 2020 | 2019 |
|---|---|---|---|---|
| **Internal transfers**[39] | 1,360 (36) | — | — | — |
| **New employee hires** | 6,782 (100) | 5,875 (100) | | |
| *Gender* | | | | |
| Women | 1,341 (20) | 1,299 (22) | — | — |
| Men | 5,441 (80) | 4,576 (78) | — | — |
| *Age group* | | | | |
| <30 years old | 3,270 (48.2) | 2,553 (43.5) | — | — |
| 30–50 years old | 3,254 (48.0) | 3,070 (52.5) | — | — |
| >50 years old | 258 (4.8) | 252 (4.0) | — | — |
| *Region* | | | | |
| Europe | 2,177 (32) | 2,410 (41) | — | — |
| Asia | 3,922 (58) | 3,043 ( 52) | — | — |
| Americas | 684 (10) | 422 (7) | — | — |
| **Employee turnover**** | 5,098 (12.1) | 3,861 (10.4) | — | — |
| *Gender* | | | | |
| Women | 1,040 (10.3) | 896 (9.6) | — | — |
| Men | 4,058 (12.7) | 2,965 (10.4) | — | — |
| *Age group* | | | | |
| <30 years old | 2,010 (20.9) | 1,083 (15.7) | — | — |
| 30–50 years old | 2,272 (10.4) | 1,786 (9.0) | — | — |
| >50 years old | 816 (7.7) | 992 (8.8) | — | — |
| *Region* | | | | |
| Europe | 2,304 (8.0) | 2,042 (7.3) | — | — |
| Asia | 2,402 (21.6) | 1,537 (18.1) | — | — |
| Americas | 392 (17.8) | 282 (15.1) | — | — |

*Permanent employees only.
** Number of employees leaving divided by average head count.
For further definitions and reporting principles see page 194–196.

### *Safety and wellbeing*

Our People Strategy and People Policy are communicated across Volvo Cars and are key to drive health and well-being. We have an occupational health and safety management system including standards for health, based on legal demands, safety and well-being that applies to all operations, employees, and contractors. A health and safety training program is provided for our employees and supervised contractors customised for their work tasks.

In 2022 we continued our pro-active work with risk observations and actions to prevent accidents and ill-health, share best practice globally and recognise individuals and teams for their contribution. We have a well-structured approach to risk with work environment committees including employee representatives, safety walks and inspections. We encourage our employees to identify and report risks, all risks are documented and followed up in our risk management system until they are eliminated.

We put a lot of effort to improve psycho-social work environment by working proactively with communication and educational campaigns about health and well-being. Using stress surveys, health promotion benefits, health check examinations, global ergonomics tools and standards and an inspiring workplace experience we monitor and promote our employees' wellbeing. We have successfully implemented a tool for working proactively with stress related illness to get early warnings and support on individual basis from our Occupational Health Service.

A health and safety training program is provided for our employees and supervised contractors. This includes new employees, manager training and high risk areas. To be able to work at Volvo Cars all external suppliers and contractors need to undergo a Contractor Safety program.

The focus in 2023 will be to continue to train our leaders and employees in safety programs connected to new technology. We will continue to develop and improve our wellbeing and safety activities, and we will globally implement pro-active stress management programs and an ergonomic strategy, while striving to reduce our use of chemicals.

| Accidents, ill-health and sick leave | 2022 | 2021 | 2020 | 2019 |
|---|---|---|---|---|
| **Accidents** | | | | |
| Total number of Lost Time Injuries reported – employees | 22 | 17 | — | — |
| Injury rate (LTCR)* – employees | 0.07 | 0.06 | 0.10 | 0.13 |
| Total number of Lost Time Injuries reported – supervised worker (consultants) | 2 | — | — | — |
| Injury rate (LTCR)* – supervised worker (consultants) | 0.05 | 0.05 | 0.20 | 0.11 |
| High-consequence work-related injuries (excluding fatalities) | 1 | — | — | — |
| Rate of high-consequence work-related injuries (excluding fatalities) | 0.003 | — | — | — |
| Fatalities[40] as a result of work related injury | 0 | 0 | 0 | 1 |
| Rate of fatalities as a result of work-related injury | 0 | 0 | — | — |
| Number of hours worked (LTCR) – employees | 65,064,659 | 56,986,946 | — | — |
| Number of hours worked (LTCR) – supervised worker (consultants) | 7,972,000 | 7,351,333 | — | — |
| Main type of work related injury and number of cases (fall in the same level - stumble) – employees | 6 | 9 | — | — |
| Main type of work related injury and number of cases – supervised worker (consultants) | —*** | — | — | — |
| **Ill-health[41]** | | | | |
| Total number of work related ill-health reported – employees | 12 | — | — | — |
| Total number of work related ill-health reported – supervised worker (consultants) | 0 | — | — | — |
| Fatalities[40] as a result of work related ill-health | 0 | — | — | — |
| Main type work related ill-health (Muscular skeletal and connective tissue-related disorders) and number of cases – employees | 6 | — | — | — |
| Main type work related ill-health (Zero cases) and number of cases – supervised worker (consultants) | — | — | — | — |
| **Sick leave** | | | | |
| Sick leave – employees** (%) | 4.4 | 4.6 | 4.3 | 4.2 |

*Injury rate (LTCR) is defined as the number of work and occupational accidents reported with at least one day sick leave, divided by hours worked and multiplied by 200,000. Supervised worker (consultants) include consultants and agencies working under our supervision.
**Figures for employees in Sweden only.
***Two cases in total of different types.
For further definitions and reporting principles see page 194–196.

ETHICAL & RESPONSIBLE BUSINESS

| Workers covered by an occupational health and safety management system (absolute and %) | 2022 | 2021 | 2020 | 2019 |
|---|---|---|---|---|
| Employees covered by such a system | 46,345 (100) | — | — | — |
| Supervised workers (consultants) covered by such a system | 3,986 (100) | — | — | — |
| Employees covered by such a system that has been audited | 46,345 (100) | — | — | — |
| Supervised workers (consultants) covered by such a system that has been audited | 3,986 (100) | — | — | — |
| Employees covered by such a system that has been certified by a external party* | 12,213 (26.4) | — | — | — |
| Supervised workers (consultants) covered by such a system that has been certified by a external party* | 76 (1.9) | — | — | — |

* China is covered to 100%, no other regions are certified.

## *Learning and development*

In continuous dialogue with the manager, our employees regularly review their performance and development. In 2022, we have focused on future proofing our learning experiences to deliver on our business ambitions and enable just transitions. Shifting demand for technological skills have led to upskilling and reskilling initiatives across the company. We offer upskilling in areas such as software development, sustainability, electrification, cyber security and online sales. In 2022, we continued our software bootcamp and electromobility reskilling programs. Moreover, we have a large focus on culture and leadership development as it is a key enabler for successfully transforming our company and we will roll out an updated program in 2023.

We collaborate with universities, technical colleges and other educational institutions, and evaluate investment in education and training programs on topics including casting technology, maintenance, software development and electromobility. Moreover, we are setting up a sustainability focused training programme to be launched in 2023

| Learning & Development Indicators | 2022 | 2021 | 2020 | 2019 |
|---|---|---|---|---|
| Training provided, average hours per FTE[35] | 20 | 25 | — | — |
| White collars | 25 | 30 | — | — |
| Blue collars | 16 | 21 | — | — |
| Training and development, average expenditures per FTE (SEK) | 1,378 | 1,307 | — | — |
| Employees receiving regular performance and career development reviews[36] (%) | | | | |
| Women | 100 | — | — | — |
| Men | 100 | — | — | — |
| Blue collars | 100 | — | — | — |
| White collars | 100 | — | — | — |

For further definitions and reporting principles see page 194–196.

## *Labour rights*

Volvo Cars ambition is to lead our industry in adhering to labour rights. We believe that social dialogue about working conditions between Volvo Cars and its employees across all regions creates value and contributes to the development of the company. In 2022, 67% of our global workforce was covered by collective labour agreements.

We treat all our employees on equal terms, regardless of labour union membership. Our People Policy, adopted by our Board of Directors, ensures fair working conditions and terms of employment for all our employees, as well as on-site contractors managed by Volvo Cars. In line with our ambitions, we have 24 consecutive hours weekly rest as a minimum.

We take a zero-tolerance stance on harassment and discrimination, as defined in our People Policy, which is pursued through our directive against discrimination, harassment, and bullying. Mandatory training is carried out throughout the organisation about how to detect discrimination, harassment and bullying, and take appropriate action. In 2022, all reported cases were investigated, with corrective and supportive action being taken in cases where discrimination or harassment were found.

| Labour rights | 2022 | 2021 | 2020 | 2019 |
|---|---|---|---|---|
| Total number of reported cases of discrimination or harassment* | 52 | 54 | 50 | 63 |
| Incident reviewed by the organisation | 52 | — | — | — |
| Remediation plans that have been implemented, with results reviewed through routine internal management review processes | 43 | — | — | — |
| Incident no longer subject to action | 52 | — | — | — |
| Coverage of collective labour agreements (%) | 67 | 70 | 79 | 78 |

*In 2022, there were 8 discrimination cases, 35 harassment cases and 9 reported cases turned out to be neither harassment nor discrimination after review.

ETHICAL & RESPONSIBLE BUSINESS

### *Fair compensation*

Volvo Cars' global pay philosophy, principles and consistent implementation ensure fair and equitable pay for our employees. We aim to set a living wage standard within our industry and continuously analyse base pay equity and wage levels compared to the minimum wage. In 2023, we will continue analysis and further develop our methods.

The analysis of pay equity for our four most significant sites show that there are differences between pay for men and women; this is a result of night shift pay, tenure and type of roles. The differences range from 1.2 per cent to 6.7 per cent (see table) depending on site and job level. In 2023, we will continue to address pay equality by analysing total renumeration differences and taking potential action.

Our Remuneration Committee oversees and approves all remuneration issues for the Executive Management team, including but not limited to, our Remuneration Guidelines.

An independent advisor shares relevant industry benchmarks with the Remuneration Committee and recommends action. In alignment meetings with larger share owner groups, before the annual general meeting, the Remuneration Committee prepares guidelines, share based incentives solutions and other approvals. Minutes from annual general meetings, including votes, are published on the external Investor Relations page.

All employees, regardless of their role, are important to us and contribute to our success. Therefore, we aim to provide the following benefits to all employees, if legally possible.

Volvo Cars' Pension & Insurance Principles ensure that all our employees are insured for disability, death in service and business travel. Our Family Bond policy expands our commitment to equal parenting roles. We encourage all employees, regardless of gender, to take up to 24 weeks of parental leave, at 80 per cent of their base salary.

Our Employee Share Matching Program is an annual program (that needs yearly AGM approval) which will be introduced incrementally throughout the company and offers employees the opportunity to invest up to SEK 10,000 in Volvo Cars' shares, the value of the investment after two years will be matched by the company. Company cars are offered to all employees globally in line with market practice. As company car ownership is a long-term commitment, this benefit is only offered to permanent employees, unlike the benefits mentioned above.

| Parental Leave* | 2022 | 2021 | 2020 | 2019 |
|---|---|---|---|---|
| Total number of entitled employees (%) | 100 | — | — | — |
| Women | 100 | — | — | — |
| Men | 100 | — | — | — |
| Total number of employees that took parental leave (absolute) | 5,827 | — | — | — |
| Women | 1,728 | — | — | — |
| Men | 4,099 | — | — | — |

* Parental leave is based on 2021 Q4–2022 Q3 reporting period.
For further definitions and reporting principles see page 194–196.

| Wage level (ratio) | | 2022 | 2021 | 2020 | 2019 |
|---|---|---|---|---|---|
| Entry wage level compared to agreement[32] | Belgium | 1.15 | 1.14 | — | — |
| | China | 2.38 | 2.71 | — | — |
| | Sweden | 1.17 | 1.17 | — | — |
| | United States | 2.55 | 2.55 | — | — |
| Men – entry wage level compared to agreement[32] | Belgium | 1.15 | — | — | — |
| | China | 2.38 | — | — | — |
| | Sweden | 1.17 | — | — | — |
| | United States | 2.55 | — | — | — |
| Women – entry wage level compared to agreement[32] | Belgium | 1.15 | — | — | — |
| | China | 2.38 | — | — | — |
| | Sweden | 1.17 | — | — | — |
| | United States | 2.55 | — | — | — |
| Wage level CEO (highest paid) comparison[33] | | 102 to 1 | 98 to 1 | — | — |
| Wage increase CEO (highest paid) comparison[34] (%) | | 2.5 to 1 | — | — | — |

| Pay equality – Gap between women´s and men´s average annual base salary (%) | | 2022 | 2021 | 2020 | 2019 |
|---|---|---|---|---|---|
| White collar employees[42] | Belgium – Ghent | –2.0 | — | — | — |
| | China – Chengdu | –1.6 | — | — | — |
| | Sweden – Total | –2.3 | — | — | — |
| | United States – Charleston | –5.7 | — | — | — |
| Blue collar employees[42] | Belgium – Ghent | –5.7 | — | — | — |
| | China – Chengdu | –6.3 | — | — | — |
| | Sweden – Total | –1.2 | — | — | — |
| | United States – Charleston | –6.7 | — | — | — |

## ETHICAL & RESPONSIBLE BUSINESS

### *Communities and societies*

We recognise our responsibility to have a positive impact on society, including in the communities in which we operate.

*Ukraine Humanitarian Assistance*

Following the outbreak of the conflict in Ukraine, Volvo Cars made a SEK10M contribution to support the vital work of UNICEF and Save the Children in providing humanitarian assistance to children and their families fleeing the war. We also established employee donation sites and matched contributions. Furthermore, we have provided over 25 of our vehicles to both organisations for use by their staff in Ukraine, neighbouring countries and within Sweden. This helps them to meet the urgent and longer-term needs of affected children, including educational and psychological support.


At the handover of one of the UNICEF cars in Warsaw. Rashed Mustafa Sarwar (Senior Emergency Response Coordinator, UNICEF – on left) and Paweł Kaczmarek (Commercial Director, Volvo Car Poland – on right). UNICEF does not endorse any company, brand, product or service. Photo by Filip Blank

*Sweden*

- Volvo Cars is a co-founder of the Destination Tynnered project, which aims to improve school results, work opportunities and local development in a particularly vulnerable suburb of Gothenburg. In 2022, more than 300 summer job opportunities were created in the area. The initiative supports the local community and contributes to long-term competence sourcing for Volvo Cars.
- The Gothenburg Green City Zone initiative supports the sustainable development of Gothenburg. In 2022, it established a new sustainable goods hub, held sustainability events and vehicle to grid projects to support the green power grid of Gothenburg. Volvo Cars is working on making the Green City Zone a transferable sustainable transport and mobility concept. Gothenburg has also successfully applied to become one of the EU's 100 sustainable mission cities – with the aim for them to be climate-neutral by 2030.
- The Volvo Experience Program offers unemployed people education in core subjects, as well as part-time work experience at our factory in Gothenburg. Over 100 people are currently participating in the program, which aims to improve their chances of finding full-time employment.

- Mitt Livs Chans (Chance of a Lifetime). This six-month mentoring programme aims to help people from a non-Swedish background enter the employment market.

*China*

- COVID-19 relief. Using a Volvo-developed corporate social responsibility volunteer platform on WeChat, our Chinese employees provide support for people affected by lockdown constraints and quarantine. Nearly 60 employees supported COVID-19 relief efforts.
- Employees in China have volunteered to do remote teaching (one hour a week in working hours) for children in rural areas, as part of a local NGO program.
- Volvo Cars initiated the Running Doctors Club in Shanghai. Participating doctors log the miles they run in a mobile app and we match each mile with a contribution to operations for children, medical research and the training of new doctors.
- The successful Volvo Cars Safety School (for 7 to 12-year-olds) has continued, despite the challenges of lockdown, with one event at our Taizhou factory. Over 5,000 students have participated in the Safety School.


*USA and Canada*

- Volvo Cars Canada performed a beach cleaning day as part of A Greener Future's "Love Your Lakes" initiative to raise awareness of plastic pollution around Lake Ontario.
- Volvo Cars Charleston supported the South Carolina Oyster Recycling Enhancement, carrying oyster shells from the shore to a salt marsh. The oyster reefs they create will filter large amounts of water, stabilise the marsh shoreline, and provide a habitat for a wide range of species.
- In Charleston, we have set up a community investment grant that invites non-profit organisations who share Volvo Cars' values of safety, education and protecting the environment to apply for funding.
- Volvo Cars US has supported the Alex's Lemonade Stand Foundation, since 2004, in its fight against childhood cancer.
- In June, Team Volvo raised funds for the Best Buddies Challenge, which took place to help enhance the lives of people with intellectual and developmental disabilities.

## Responsible sourcing

***Our suppliers***

Volvo Cars has a complex and diverse supply chain involving many companies and people across the world. In 2022, we purchased goods and services for 255 billion SEK from approximately 10,020 directly contracted suppliers. Out of these 9,100 suppliers delivered services and 920 (distributed on 2,390 supplier sites) delivered parts and components to us. The 2,390 supplier sites are located in China (31 per cent), Germany (15 per cent) Sweden (8 per cent), United States (5 per cent), France (5 per cent), Poland (5 per cent) and Czech (4 per cent), other European countries (21 per cent) and other countries in Asia, Africa and North America (6 per cent). Beyond our directly contracted suppliers, we have thousands of sub suppliers. Due to the size of our supplier base, we can have a wide impact on people and environment.

Our suppliers' products and services enable us to produce sophisticated cars with technologies that are at the forefront of the industry. Volvo Cars has long-standing and collaborative relationships with many key suppliers, which play an important role in the development of our new car models. These long relationships also help to strengthen suppliers' sustainability performance over time.

***Opportunities and challenges***

- Volvo Cars welcomes the global legislative trend towards mandatory human rights, environmental, and governance due diligence, as it facilitates and accelerates the adoption of responsible business practices globally.
- Engagement with our supplier network allows us to promote sustainability on a wider scale and have a positive impact on people and the planet.
- At the same time, due to the large number of suppliers and high complexity of our supply chain, it is often challenging to achieve greater transparency. For example identifying suppliers beyond the first and second tier and building an understanding of their sustainability performance, including their potential impacts on human rights and the environment.

***Key actions during 2022***

- Initiated a project with technology, audit and advisory leader RCS Global Group, to further develop our responsible sourcing management system for Volvo Cars' Materials of Concern (see below).
- Significantly expanded our battery supply chain audit program with RCS Global Group, covering all tiers of the supply chain from Volvo Cars to the mines, including cobalt, lithium and nickel.
- Continued the implementation of blockchain to increase traceability for cobalt, lithium and nickel as well as tracking of carbon emissions in the battery supply chain.
- Launched a program to strengthen our risk-based due diligence efforts throughout our value chain in the areas of human rights, environmental protection and governance.

***Our sustainability requirements for suppliers***

Volvo Car Group's Code of Conduct for Business Partners (CoC BP) states our requirements for suppliers. It covers areas such as legal compliance, human rights, working conditions, environmental care and business integrity. All our suppliers are obliged to comply with the CoC BP and implement management systems that ensure their employees and sub suppliers adhere to its requirements.

Our Position on Responsible sourcing of raw materials, applies to suppliers of components containing raw materials associated with severe negative environmental, social and governance (ESG) impacts, or Materials of Concern. Among others, this includes suppliers of batteries and components containing tantalum, tin, tungsten and gold (known as conflict minerals or 3TG). Following forthcoming updates to the CoC BP, all suppliers of components containing these raw materials will be required to implement a due diligence management system that is consistent with the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas (OECD Due Diligence Guidance).

***Supplier due diligence***

Volvo Cars continuously conducts risk-based due diligence to ensure conformance with our responsible sourcing requirements, to identify ESG risks and detect improvement areas across our supply chain.

Our supply chain due diligence process consists of multiple assessments at two levels: 1) basic due diligence targeting directly contracted suppliers and 2) enhanced due diligence for directly contracted suppliers operating in high-risk countries or suppliers of parts containing Materials of Concern. We conduct supplier assessments prior to sourcing and throughout our business relationships.

## Supply chain due diligence

| BASIC DUE DILIGENCE | TIER-1 SUPPLIERS | TIER-N SUPPLIERS | RAW MATERIAL SUPPLIER |
|---|---|---|---|
| Directely contracted suppliers | • Assessments to review conformance with CoC BP and ESG performance<br>• Risk screenings | | |

| ENHANCED DUE DILIGENCE | | | |
|---|---|---|---|
| New directly contracted suppliers locatecd in high-risk countries | AUDIT (RBA VAP) | | |
| Materials of concern:<br>Suppliers<br>• in the battery supply chain (cobalt, lithium, nickel and mica) | AUDIT (OECD DDG) | AUDIT (OECD DDG) | AUDIT (OECD DDG & IRMA) |
| • in the supply chain containing conflict minerals (3TG) | CMRT | CHOKE POINT/SMELTER VALIDATED BY A THIRD PARTY TO BE (RMAP) CONFORMANT | |

Blockchain technology enables the tracing of raw materials from the mine to the car and thus the identification of the actors in our supply chain tier by tier. We are working with implementation of blockchain for cobalt, lithium, and nickel used in our battery cathodes, and mica in thermal protection.

Due diligence data and other assessments form the basis of dialogue within the company and with our suppliers. Meeting our sustainability requirements is a prerequisite to be part of our supplier choice process in which sustainability is being put on a par with cost and quality. With this approach, we strive to motivate suppliers to invest in sustainable business and use their sphere of influence to promote sustainability.

Volvo Cars recognises that due diligence is an ongoing, proactive, and reactive process, and therefore, our supplier assessments and management systems are continuously improved over time as a result of internal reviews, supplier feedback and engagement with other stakeholders.

***Basic due diligence***

Suppliers' conformance with the CoC BP and performance against a wider set of our ESG requirements are evaluated via e.g. self-assessment questionnaires, on-site visits and other assessments. In addition, risk screenings are performed as part of the basic due diligence.

*Drive Sustainability SAQ*

We use a mandatory Self-Assessment Questionnaire (SAQ) in our sourcing process since 2019. It covers ESG areas such as business ethics, human rights, environmental management and responsible sourcing and was developed in a collaborative initiative by the automotive industry "Drive Sustainability". All SAQ answers are validated by an external assessor and the suppliers are provided with recommendations on how to improve. Existing suppliers need to complete a SAQ every second year. At the end of 2022, 769 suppliers (87 per cent) had submitted a completed SAQ. Out of these, 93 per cent are conformant with our requirements. Non-compliant suppliers are required to set up action plans, which we follow up on in order to secure improvement in line with our requirements. See table Other Assessments.

*Anti-corruption and trade sanctions*

Suppliers are screened in an anti-corruption and trade sanctions process. This is done prior to sourcing and during ongoing business to identify and mitigate legal risks in the fields of corruption and trade sanctions as well as money laundering and violations of human rights.

*Risk screening based on country data*

We use a risk screening tool provided by the Responsible Business Alliance (RBA) to help us rate supplier risk level based on geographical location, our expenditure and the products they supply. This assessment is carried out annually and guides us in determining which suppliers will be subject to enhanced due diligence (as outlined below).

In 2022, 4,752 of our directly contracted suppliers were included in the risk assessment which corresponds to 100 per cent of the suppliers that deliver parts and components as well as selected suppliers of services. 158 (3 per cent) were rated as high-risk suppliers, 3,535 (75 per cent) medium risk suppliers and 1,059 (22 per cent) as low risk suppliers. See table Other Assessments.

***Enhanced due diligence***

Enhanced due diligence is conducted on suppliers highlighted by RBA's risk screening tools or suppliers of components containing Materials of Concern.

*Materials of Concern*

Volvo Cars has defined a list of minerals, metals, and bio-based materials associated with high ESG risks, including e.g. cobalt, lithium, aluminium, and nickel. We aim to gradually increase the transparency of these supply chains to enhance material traceability and mitigate ESG risks. This will help ensure responsible sourcing and continuous improvements in line with industry norms and regulatory requirements. In early 2022, we initiated the development of our responsible sourcing management system for the Materials of Concern. More information about this work will be made available in our Responsible Raw Material Report, which will be launched on volvocars.com.

*Audits*

We run two different audit programs – (1) for existing directly contracted suppliers which have received a high-risk score in the RBA risk assessment as well as new directly contracted suppliers located in high-risk countries and (2) for the battery supply chain. In addition, ad-hoc audits can be conducted based on identified risks e.g. through information received from buyers or external stakeholders.

*Audits on directly contracted suppliers*

We make comprehensive on-site audits of suppliers' sustainability performance by utilising the Validated Assessment Program (VAP) from the Responsible Business Alliance (RBA), which covers areas such as labour rights, environment, business ethics, management systems and health and safety. A typical onsite audit at a manufacturing site may take two to five days and is conducted by an accredited third-party auditor.

The global risk landscape is dynamic and ever changing, which is reflected in the country risk indices for human rights, environment and conflict that inform the RBA risk screening and our audit prioritisation. As a result of developments in 2022, the risk screening of our suppliers generated a greater number of high-risk suppliers than in previous years. Of 158 high-risk suppliers, 43 were selected for audits, based on factors such as expenditure and audit history. End of December 2022, 27 of these audits were performed (see the tables, Audits and Other assessments). Remaining audits are planned to be conducted in 2023.

Moreover, all new suppliers of material located in high risk countries (based on RBA risk map) are required to do an audit prior to start of production to ensure compliance with our sustainability requirements. This requirement was launched in May 2021 and since then 138 suppliers (116 during 2022) have been in scope for this audit. In 2022 42

| Other assessments | 2022 | 2021 | 2020 | 2019 |
|---|---|---|---|---|
| Number of directly contracted suppliers having performed a SAQ | 769 | 847 | 663 | 754 |
| Share of the directly contracted suppliers being conformant with our requirements in the SAQ (%) | 93 | — | — | — |
| RMAP-compliant smelters in the 3TG supply chain (%) | 78* | 82 | 71 | 71 |
| Suppliers being classified as high/medium/low risk | | | | |
| High risk | 158 | — | — | — |
| Medium risk | 3,535 | — | — | — |
| Low risk | 1,059 | — | — | — |

*Updated methodology, figures disclosed for the last full reporting period Sept. 2021–May 2022.

## ETHICAL & RESPONSIBLE BUSINESS

of these audits had been conducted (out of the 116). The pace of implementation has been slower than expected, primarily, due to COVID-19 and new ways of working for both the suppliers and us.

*Audits in the battery supply chain*

Volvo Cars does not currently source battery raw materials directly. We recognise that the supply chains of these materials are complex and often associated with significant ESG risks. Establishing traceability is a prerequisite for addressing these risks and building responsible supply chains, as it allows us to identify supply chain actors, tier by tier, assess their ESG performance and promote good practice. Therefore in 2019, Volvo Cars together with Circulor, started to implement a blockchain project for cobalt, a key component in our electric vehicle batteries. Blockchain technology enables the tracing of raw materials from the mine to the car and thus the identification of the actors in our supply chain tier by tier. Since the project was launched, the implementation of blockchain has been extended to lithium, nickel (used for battery manufacturing) and mica (for insulation sheets). Work is also being carried out to track $CO_2$ emissions in these supply chains

In 2019, in conjunction with blockchain implementation, we started to commission independent audits of identified battery material suppliers for in-depth evaluations of their responsible sourcing performance. These audits were performed by RCS Global Group against criteria based on the OECD Due Diligence Guidance and additional responsible mining good practice standards and ESG audit criteria at mine level. Between 2019 and 2021, we have conducted 25 audits of suppliers in the cobalt, lithium, nickel and mica supply chains.

In 2022, we established a structured program to formalise and expand our auditing activities in the battery supply chain. The aim of the program is to ensure that suppliers at all tiers in our cobalt, lithium, nickel and mica supply chains are conformant with relevant standards and frameworks (see below) and to ensure continuous improvement of ESG performance across our battery supply chain by monitoring the implementation of corrective action plans. Since 2021, in addition to the OECD Due Diligence Guidance, we have been conducting audits of mine sites against the IRMA Standard for Responsible Mining Critical Requirements or equivalent schemes. The broader audit scope allows us to gain a better understanding of the environmental and human rights performance of the mine sites in our supply chain and to meet external stakeholder expectations for upstream due diligence.

In 2022, we conducted 16 audits in our battery materials supply chain – these included three directly contracted suppliers, five refiners, four cathode producers, two treatment units and two mine sites. See the table, Audits and illustration Battery supply chain.

**BATTERY SUPPLY CHAIN**

VOLVO CARS – BATTERY PRODUCER – CATHODE PRODUCER – REFINER – TREATMENT UNIT – MINE

| Audits | 2022 | 2021 | 2020 | 2019 |
|---|---|---|---|---|
| Number of audited directly contracted suppliers (RBA VAP) | 27 | 29 | 25 | 33 |
| Number of audited new directly contracted suppliers located in risk countries (RBA VAP) | 42 | – | – | – |
| Share of addressed RBA VAP audit improvement findings (%) | 80 | 94 | 83 | 79 |
| Number of audits in the battery supply chain | 16 | – | – | – |

*Audit results*

Audit findings are summarised in a report, which includes identified non-conformities and a list of agreed corrective actions for the supplier to take (with due dates). We are monitoring the corrective action plan (CAP) implementation progress to ensure that the needed measures are taken. If a supplier does not take the agreed actions, discussions are initiated to understand the root cause and identify ways we can support the supplier in meeting the audit requirements. If needed senior management is involved.

In 2022, the most frequently found non-conformities in RBA audits of our directly contracted suppliers concerned excessive working hours, insufficient days off and a lack of effective policies and systems to determine and control working hours.

We identified one case of risk of forced labour. The manufacturing site, in China, had terms of employment which included wage deduction for workers who resigned shortly after having been hired. However, no evidence of actual forced labour was found. We are monitoring this supplier to ensure that the agreed corrective measures are taken within the agreed schedule.

Since starting the programme in 2018, 194 (of which 69 in 2022) RBA audits have been conducted on our directly contracted suppliers. In 2022, we have continued monitoring the findings from the audits conducted in 2021. Out of these, 80 per cent have been addressed (see the table, Audits). The reason for the decline (compared with 2021) is the increased number of audits carried out and implementation of our new audit tracking system. We are continuing to address the remaining findings in close collaboration with our suppliers.

In 2022, the most frequent finding in audits of our battery supply chain was related to deficiencies in management systems for responsible sourcing, based on the OECD Due Diligence Guidance. Other frequent findings related to risk assessment were, for instance, insufficient enhanced due diligence and the absence of procedures to evaluate supply chain risk data.

In addition, risks of forced labour were identified at two mine sites in the Democratic Republic of the Congo. However, no evidence of actual cases of forced labour were identified. We are working closely with RCS Global Group and the suppliers to ensure that corrective actions to address these non-conformances are implemented within the agreed timeframe. No significant risks concerning the use of child labour were identified.

*Conflict Minerals*

Our ambition is to only source components containing tantalum, tin, tungsten and gold (so called conflict minerals) from supply chains with third-party validated, conflict-free smelters and refiners. Every year we request suppliers of components containing conflict minerals to declare their due diligence measures and disclose the smelters used in their supply chain in a Conflict Minerals Reporting Template (CMRT) provided by the Responsible Minerals Initiative (RMI). By tracing the minerals in our supply chain and buying material from smelters validated to be conformant with the Responsible Minerals Assurance Process (RMAP) – RMI's third-party verification of smelter and refiner management systems and sourcing practices – we can secure responsible sourcing in line with global standards. This accumulated information creates the foundation of our due diligence process for conflict minerals where we identify potential discrepancies and, if needed, follow up with suppliers on risk mitigation action plans to address adverse impacts. Since 2017, we have reviewed whether smelters in our conflict minerals supply chain feature on the RMI list of conformant smelters and refiners. As the current reporting period is ongoing, we will disclose the figures for the last full reporting year, 2021. After evaluating the data, we conclude that the level of RMAP-compliant smelters in our conflict minerals supply chain was 78 per cent. We will disclose data for 2022 in our forthcoming responsible sourcing report.

***Better Mining***

To support the continuous improvement of working and living conditions in cobalt, copper, tantalum, tin and tungsten artisanal and small-scale mining (ASM) communities, Volvo Cars collaborates with Better Mining, an assurance and impact programme led by RCS Global Group in the DRC and Rwanda. Better Mining works on ASM sites to directly improve conditions and reports on the sites' improvement to the programme participants, the supply chain and to society. Trained monitoring agents are permanently deployed at the sites, where they record information on incidents which indicate what kind of risks a specific mine is facing. The information collected is verified and analysed by a team of experts who ensure completeness and follow up with agents on any red flags or data anomalies. To mitigate identified risks, monthly Corrective Action Plans (CAPs) are rewiewed with local stakeholders and the implementation is overseen by Better Mining agents and project teams. Volvo Cars receives communication on the CAP implementation progress every quarter.

***Sustainability training and collaboration***

We offer training, via RBA and Drive Sustainability, for our suppliers and employees, in order to raise awareness of ESG issues in our supply chain and promote responsible sourcing. We have established an internal network of sustainability champions within our procurement department, whose role is to act as ambassadors in their teams of buyers. Regular meetings are hosted by procurement sustainability experts with the sustainability champions to keep them updated on relevant topics. We also offer training to our procurement professionals and suppliers in order to improve their understanding of the expectations set out in our CoC BP.

We work with several organisations and industry bodies to support the delivery of our sustainability goals, share best practices and highlight our role in the industry as an ethical and responsible player. These include:

- UN Global Compact
- Drive Sustainability
- Responsible Business Alliance
- Responsible Minerals Initiative
- Carbon Disclosure Project

ETHICAL & RESPONSIBLE BUSINESS

# Ethical and Responsible Business Conduct

***Introduction***

Volvo Cars is committed to conducting business in an ethical, responsible and sustainable way, and has implemented a compliance and ethics programme (further described on p.65) to support this commitment. The elements of the program can be summarised as: Prevent, Detect and Manage.

READ MORE ON PAGE 37 AND IN OUR CODE OF CONDUCT

## COMPLIANCE AND ETHICS PROGRAMME

PREVENT

We provide policies, processes and trainings to support the busines in driving results in an ethical and responsible way

DETECT

We detect risks and behaviour that are inconsistent with our way of doing business, and foster a "speak up" culture

MANAGE

We act firmly against identified misconduct to mitigate the risk for reoccurrence

PREVENT

***Prevent***

Our code of conduct forms the foundation of how we drive results in an ethical and responsible way – convinced by our purpose; guided by our values; empowered by our culture. The Code of Conduct is further described on p.37.

Our code of conduct for business partners describes the standards and principles we require from those we do business with. We actively work with our commitment to ethical and responsible business throughout our value chain.

In order to ensure our principles and values are implemented, we provide continuous training & communication, including:

- Annual e-learning and certification for all non-production employees. In 2022, the e-learning focused on our code of conduct, our 12 corporate policies, as well as anti-corruption, data privacy and our speak up culture. This training was also completed by members of our board of directors.
- Modules in our internal leadership programs.
- Responsible business discussion kits, enabling leaders to facilitate discussions on ethical and responsible business with their teams.
- Targeted training on the five main compliance and ethics risk areas. In 2022, 4,100 people took part in face-to-face, risk-specific training sessions. Training on other areas in our code of conduct, such as cybersecurity and discrimination & harassment, is also provided by other units.
- Training for production employees. In 2022, training in our code of conduct was provided to production employees at 5 of our plants. Staff at our remaining production facilities will receive this training in 2023.
- Breakfast seminars where senior leaders share their experience and thoughts on ethical & responsible business.
- In total, 12,900+ participants received face-to-face training relating to ethical & responsible business through the initiatives organised by our Compliance and Ethics Office.

| Training and Communication | 2022 | 2021 | 2020 | 2019 |
|---|---|---|---|---|
| Share of (non-production) employees trained in ethical and responsible business through the yearly C&E e-learning (e.g. including anti-corruption) (%) | 79 | 83 | N/A[43] | 85 |
| AMERICAS completion rate | 100 | — | — | — |
| APAC completion rate | 99 | — | — | — |
| EMEA completion rate* | 74 | — | — | — |
| Number of production sites where production employees were trained on our Code of Conduct (e.g. including anti-corruption) | 5 | — | — | — |
| Total number of people trained face-to-face through C&E-related initiatives (e.g. including anti-corruption) | 12,900+ | — | — | — |

*We believe that regional differences in completion rate partly can be explained by technical issues, and we are working on addressing that for 2023.
For further definitions and reporting principles see page 194–196.

DETECT

## *Detect*

### *Risks*

The Compliance and Ethics Office supports the company in managing risks related to corruption, competition law, data protection, trade sanctions and export control.

The Compliance and Ethics Office conducts annual risk assessments in order to identify and mitigate operational risks. The results are reported to the Group Management Team, via the Global Compliance Committee (described on p.65). The programme is periodically reviewed and updated to enhance its effectiveness.

### *Anti-corruption*

Volvo Cars has a zero-tolerance towards all forms of bribery and corruption. We conduct risk-based due diligence of our business partners and monitor their adherence to our code of conduct for business partners. In addition, Volvo Cars focus on developing a culture based on its values to ensure that business is conducted in an ethical and responsible way. Our compliance and ethics e-learning and in-depth training on anti-corruption implement these commitments.

In addition to the assessment carried out as part of the Enterprise Risk Management (read more p.55), eight legal entities were specifically selected for a focused anti-corruption risk assessment. No critical corruption risks were identified.

### *Competition law*

Volvo Cars is committed to always compete fairly. Targeted training and specific approvals are required for any employee that interacts with a competitor.

### *Data protection*

With the increasing amount of software and connected services in our vehicles, we are committed to respecting data privacy and taking appropriate precautions to protect personal data entrusted to us. The Global Data Protection Office (GDPO) is responsible for driving Volvo Cars' data protection strategy and framework to support organisational compliance, and setting standards by which all employees, business partners and suppliers must operate.

Our group Data Protection Officer (DPO) is the designated contact person for inquiries related to our data protection practices. In 2022, the group DPO addressed 6 customer complaints and managed one regulatory authority investigation, in relation to a specific data subject access request. The matter was rectified with the regulatory authority issuing a reprimand. No administrative fines or other measures were taken against the company as part of this investigation. There were 58 substantiated personal data incidents relating to customer data in 2022.

### *Trade sanctions and export control*

The Compliance and Ethics Office is responsible for overseeing our Trade Sanctions and Export Control Compliance Program and for implementing the trade sanction program on a global basis. In 2022, the geo-political environment and, in particular, the war in Ukraine had an impact on the program and Volvo Cars' operations. Measures were taken to manage risks associated with trade sanctions and export controls.

### *Speak up culture*

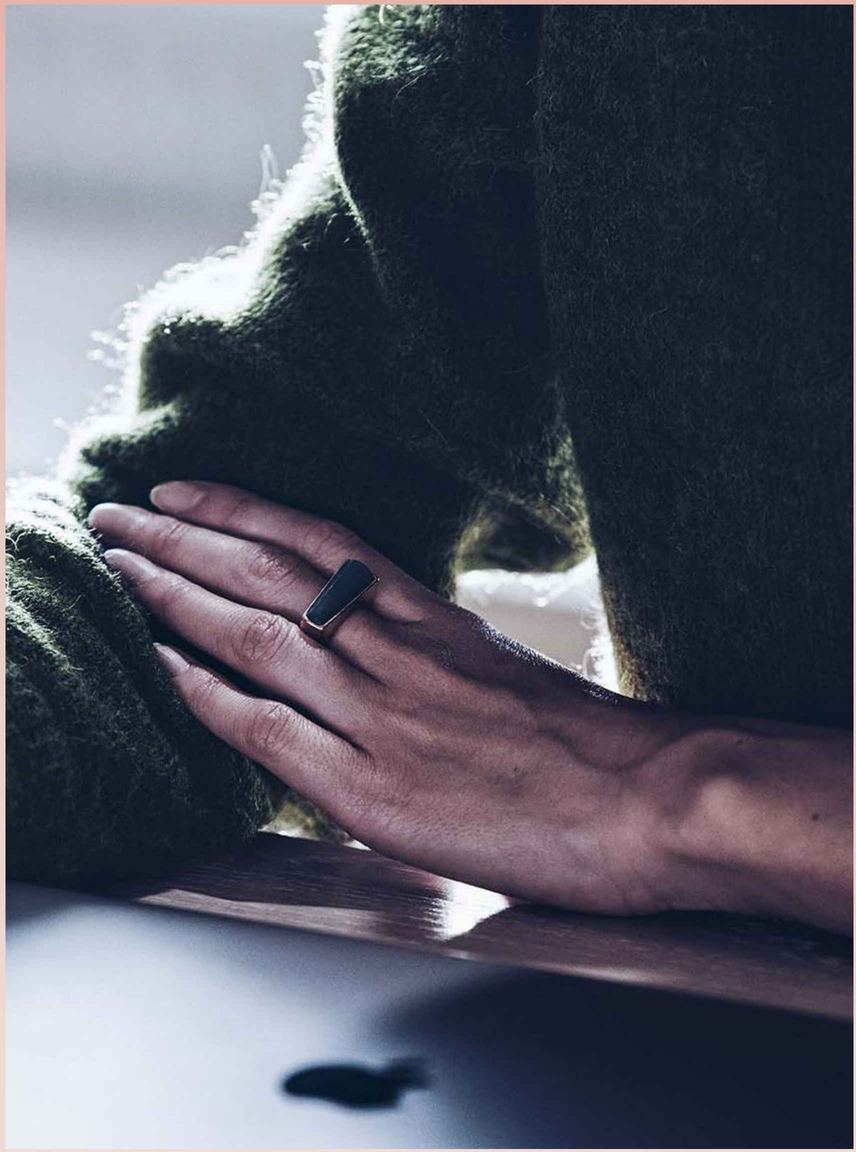
We encourage our employees to raise questions and concerns about suspected violations to our code of conduct, ask questions and seek advice in difficult situations and make several grievance channels available, including the dedicated whistle-blowing function "Tell Us" reporting line. External stakeholders, such as suppliers and other business partners, may also use the Tell Us reporting line to raise concerns and submit reports.

All reports made via Tell Us reporting line are sent to the Compliance Investigations Unit and are handled confidentially, according to our compliance investigation procedure and the relevant regulatory requirements. Volvo Cars does not accept any form of retaliation against individuals who report concerns in good faith.

| Risk Areas | 2022 | 2021 | 2020 | 2019 |
|---|---|---|---|---|
| Number of closed authority-led investigations relating to competition law | 0 | — | — | — |
| Number of pending authority-led investigations relating to competition law | 0 | — | — | — |
| Number of customer complaints addressed by the group DPO | 6 | — | — | — |
| Number of regulatory authority investigations managed by the group DPO | 1 | — | — | — |
| Number of substantiated personal data incidents relating to customer data | 58 | — | — | — |

ETHICAL & RESPONSIBLE BUSINESS

MANAGE



*Manage*

*Cases and investigations*

In 2022, 112 suspected violations of Volvo Cars' code of conduct were reported to the Compliance and Ethics Office. Following 50 investigations by the Compliance and Ethics Office, 22 of these reports were substantiated and disciplinary actions were taken in 16 cases, including employee dismissals and termination of supplier contracts. Out of the 22 substantiated cases, 5 related to corruption. No public legal cases regarding corruption were brought against Volvo Cars or its employees.

The Global Compliance Committee is informed on a quarterly basis, or as otherwise necessary, about the status of ongoing cases. The annual reporting to the board of directors includes information about the total number and nature of the cases handled, and details of cases that could have a severe impact on the company. No such cases were reported in 2022.

| **Speak Up Culture and Investigations** | **2022** | 2021 | 2020 | 2019 |
|---|---|---|---|---|
| Number of cases reported to the BoD that potentially could have a severe impact to the company | 0 | — | — | — |
| Cases of violations of our Code of Conduct reported to the Compliance and Ethics Office | 112 | 104 | 126 | 133 |
| Substantiated cases of corruption | 5 | 5 | 10 | 9 |
| Public legal cases regarding corruption brought against Volvo Cars or its employees | 0 | — | — | — |

## Safeguarding human rights

***International commitments***

Our aim to be an industry leader in ethical and responsible business plays a vital part in our approach to safeguarding human rights. Volvo Cars is proud to be a founding member of the UN Global Compact. Since its foundation in 2000, we have endeavored to observe its Ten Principles. In addition, we have included the ambition of the following international norms and guidelines into our Code of Conduct and Code of Conduct for Business Partners (see p.177):

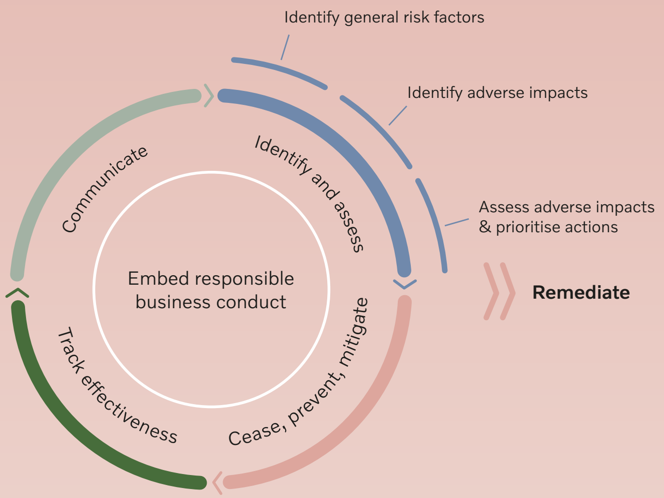
- The Universal Declaration of Human Rights
- UN Convention on the Rights of the Child
- The eight core conventions of the UN's International Labour Organisation (ILO); Child Labour (138 and 182), Forced Labour and Compulsory Labour (29 and 105), Equal Remuneration and Discrimination (100 and 111), and Freedom of Association and Collective Bargaining (87 and 98)
- UN Guiding Principles on Business and Human Rights
- OECD Guidelines for Multinational Enterprises
- OECD Due Diligence Guidance for Responsible Business Conduct

Several of these international guidelines form the basis of current and upcoming legislation that introduces extensive requirements for human rights due diligence, including the Modern Slavery Act in Australia and UK, Transparency Act in Norway, EU Taxonomy Minimum Safeguards criteria, and the upcoming EU Corporate Sustainability Due Diligence Directive. Volvo Cars supports these developments and recognises demand for legislation is also increasing from other stakeholders and society. Our annual progress reports on compliance with these global and national legislations can be found in this sustainability report or at our global, or national web sites (for national legislations). In addition, our UN Global Compact Communication of Progress report is published on the UNGC website.

***Human rights due diligence procedures***

As a global company, it's vital to safeguard human rights and minimise the risk of violations in any part of our complex value chains. We take a risk-based approach and prioritise potential salient human rights impacts. We are strengthening our due diligence efforts. Depending on potential risk and the type of business relationship, we are and will further improve our risk-based due diligence activities to assess the potential or actual adverse impact and prioritise actions to cease, prevent, mitigate and remedy identified human rights violations. Rights-holders (e.g. factory workers or indigenous people), or organisations representing rights-holders (e.g. human rights NGOs) can also report potential human rights abuses anonymously using our public Tell-Us reporting channel. (for more information about our Speak Up culture and Tell Us reporting channel, see 178). Progress is monitored and reported in our annual reports. Read about our work with third-party audits in our battery chain in "Responsible sourcing" on page 172 and our People Policy assessments in "Global people standard" on page 164. Read about our Remediation of Code of Conduct violations on page 177 and 179.

#### SCHEMATIC OVERVIEW OF VOLVO CARS ENHANCED DUE DILIGENCE PROCEDURES




***Due Diligence Directive project***

To address the forthcoming EU Corporate Sustainability Due Diligence Directive, we are further enhancing our cross-functional governance as well as organisation and working methods. An internal project was inintiated in 2021 aiming at establishing enhanced Due Diligence procedures. It contains several workstreams aimed to identify the most salient human rights issues in our value chain, such as modern slavery, child labour, the right to a clean, healthy and sustainable environment, health and safety, data privacy and discrimination. It will establish improved human rights due diligence procedures for potential and actual impacts, see schematic overview above.

# Sustainable Finance

## Economic performance and contribution

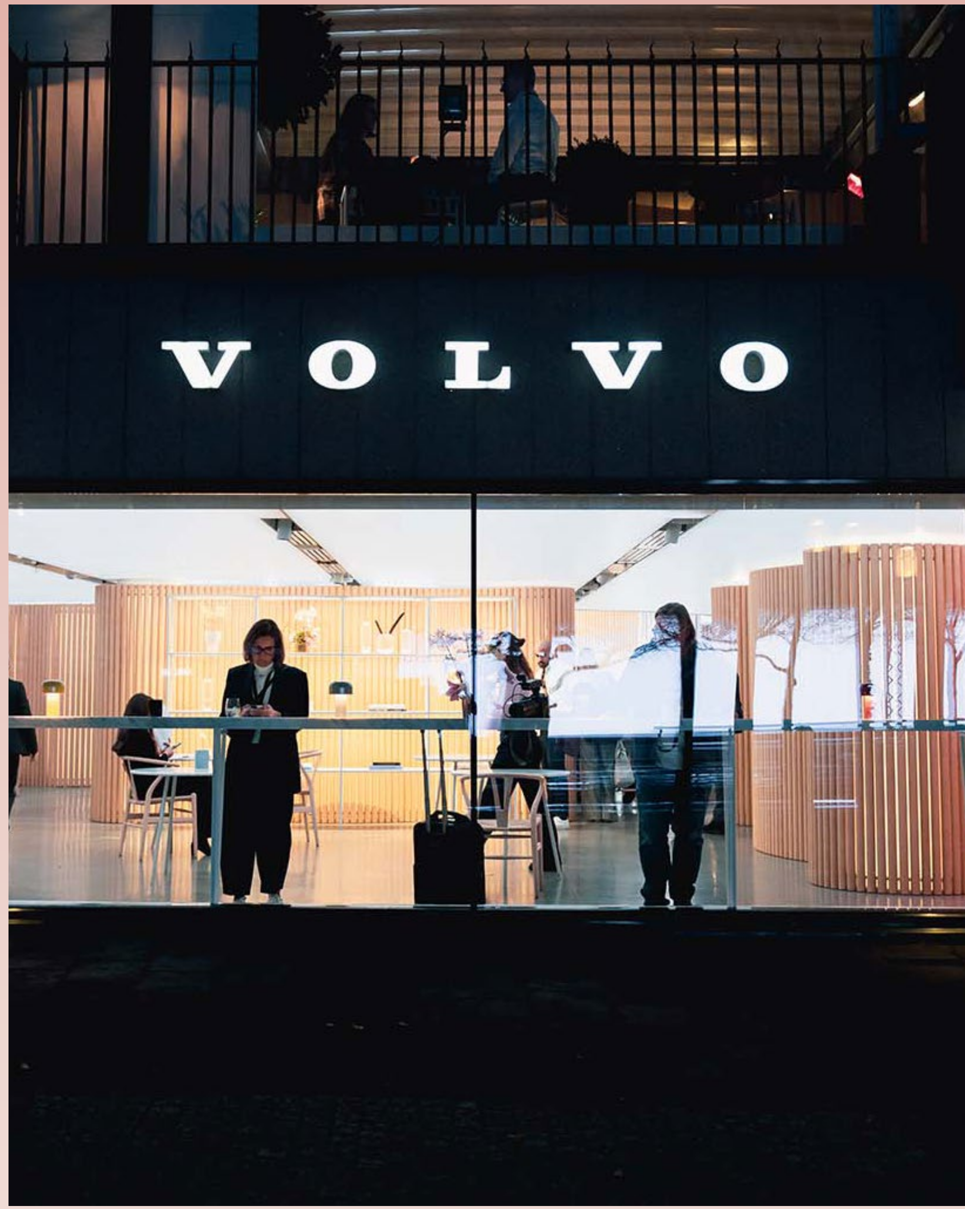
Volvo Cars aims to create sustainable value for its stakeholders. This includes:

- employees through wages and benefits
- shareholders through dividends
- suppliers through raw material and service prices

Part of the value earned is retained in the company and invested in areas such as technology, research and development and quality assurance.

| Economic performance and contribution* | 2022 | 2021 | 2020 | 2019 |
|---|---|---|---|---|
| **MSEK** | | | | |
| **Direct economic value generated and distributed (EVG&D)**** | | | | |
| Revenue | 330,145 | 282,045 | 262,833 | — |
| Operating costs | –313,812 | –262,462 | –252,424 | — |
| Employee wages and benefits (personnel)*** | –34,518 | –32,332 | –30,302 | — |
| Payments to providers of capital | –910 | –878 | –998 | — |
| **Financial assistance received from the government** | 409 | 472 | 1,340 | — |
| **Financial investment contribution** | | | | |
| CAPEX | –32,112 | –23,324 | –18,560 | — |
| Depreciation/amortisation | –16,091 | –15,005 | –14,449 | — |
| Share buybacks | — | — | — | — |
| Dividend payments | –846 | –10,462 | –4 | — |
| **Total R&D expenses** | –26,661 | –23,544 | –18,879 | |

*For information about Tax, see our Tax Policy.
**For information about our community investments see page 171.
***For information about pensions see note 23, page 122–126.



# EU Taxonomy report

## Introduction

The EU Taxonomy is a classification system of environmentally sustainable activities that will play an important role in supporting the EU's climate and energy targets for 2030. The regulation is designed to direct investments towards more sustainable projects and activities. Volvo Car Group supports the objectives of the EU taxonomy and has set high ambitions to be EU taxonomy aligned.

In order to comply with the EU taxonomy, Volvo Cars must report on its taxonomy-eligible and aligned activities for turnover, capital expenditure (CapEx) and operational expenditure (OpEx) during 2022. To be aligned with the EU Taxonomy, Volvo Cars needs to comply with the defined technical screening criteria in terms of significant contribution to one of the six environmental objectives and do no significant harm (DNSH) criteria. In addition, minimum safeguards need to be in place at the entity level to claim alignment. The assessment and associated KPIs can be found in the tables on pages 186 to 188. Additional commentary on Volvo Cars' activities, accounting policies and the assessment of alignment is in the following sections.

## Assessment of Eligibility

Based on our screening of the technical screening criteria for the two first environmental objectives related to climate change, we have identified the following economic activities to be relevant for 2022:

- Manufacturing 3.3: Manufacture of low carbon technologies for transport. Activity 3.3 relates to our manufacturing of Volvo Cars branded vehicles. We have excluded manufacturing activities related to other brands' cars where Volvo Cars do not own the specifications of the vehicle.
- Transport 6.5: Transport by motorbikes, passenger cars and light commercial vehicles. Activity 6.5 relates to our Care by Volvo subscription and Volvo on Demand businesses.
- Construction and Real Estate 7.4: Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings).

Activities relating to sales of used cars, as well as parts and accessories business and licences have been excluded from our calculations for eligibility as they are not listed as eligible activities for climate mitigation in the EU taxonomy. We have excluded other activities related to Construction and Real Estate and have not assessed these as separate activities as these values are immaterial to our reporting of 2022 KPIs. Activities related to unique investments related to third parties have also been excluded as these investments will not lead to aligned turnover, CapEx or OpEx for Volvo Cars.

For 2022, Volvo Cars has focussed on our significant contribution to the environmental objective climate change mitigation.

## Accounting Policies

The following describes our calculations of turnover, CapEx and OpEx for taxonomy eligible activities.

### Turnover

In calculating the proportion of taxonomy-eligible activities for turnover, we have used revenue as a denominator. See Note 2 - Revenue on page 86.

The numerator includes turnover for new car sales within the manufacturing category (3.3), turnover related to Care by Volvo subscription and Volvo on Demand for the transport (6.5) and the turnover category relating to charging stations for electric vehicles (7.4).

### Capital Expenditure (CapEx)

In calculating the proportion of eligible CapEx, we have used a denominator defined as *Additions* for tangible assets, including right of use assets, see Note 16 Tangible assets on page 107, and for Intangible assets, excluding trademark and goodwill, see Note 15 Intangible assets on page 105.

The numerator includes investment in manufacturing, transport and charging stations within *Additions*. We have excluded IT and other investments not related to eligible activities and CapEx related to buildings owned by Volvo and leased externally.

Please note, the Taxonomy reporting of CapEx is not comparable with other metrics related to capitalisation in the financial statement.

### Operational Expenditure (OpEx)

In calculating the proportion of OpEx eligible for the Taxonomy, we have used a denominator defined as the sum of expenses related to research and development, expenses for short-term leases and expenses related to our property, plant, and equipment, for example maintenance and repair.

The numerator consists of the expenses for research and development related to the manufacturing, transport and charging stations.

Please note, the Taxonomy reporting of OpEx is not comparable to other operating expenses in the income statement.

### Additional Commentary

All turnover, CapEx and OpEx values, where they have been provided in an alternative currency, have been converted to SEK.

In our calculations for KPIs we have ensured there is no double counting, for example, in calculations for OpEx we have excluded depreciation and amortisation.

## Assessment of Compliance

In 2022, we focussed on taxonomy alignment with the objective for climate mitigation, as we view this as most applicable for our activities. Any CapEx and OpEx relating to climate adaption, at our manufacturing sites, that could have been separately assessed as a climate adaption activity has been attributed to CapEx and OpEx in Activity 3.3.

For turnover, CapEx and OpEx to be aligned with the EU taxonomy, the economic activity needs to comply with the criteria for substantial contribution to climate mitigation, DNSH to all other environmental objectives and meet minimum safeguards.

In 2022, we have assessed the alignment of Volvo Cars models that are manufactured by Volvo Car Group.

**Activity 3.3. Manufacturing**

***Substantial contribution***

Vehicles with tailpipe emissions of less than 50g of $CO_2$ per km meet the climate mitigation technical screening criteria for Activity 3.3. This criteria will remain valid from 2022 to 2025 and be reduced to 0g $CO_2$ per km in 2026.

In 2022, all BEVs and PHEVs, except certain versions of the XC40 Recharge PHEV, meet the 50g of $CO_2$ per km criteria. This equates to 53% of turnover for Activity 3.3 that meet the substantial contribution criteria. All other vehicles (i.e. all our ICE vehicles including MHEVs and the aforementioned XC40 PHEVs) do not meet the substantial contribution criteria. Despite meeting the substantial contribution criteria, we have 0% aligned turnover for Activity 3.3 due to the DNSH criteria for pollution prevention.

In calculating aligned CapEx and OpEx for Activity 3.3, we have made the following conclusions:

- Currently, we have assessed that none of Volvo Cars' vehicles are aligned and CapEx and OpEx for Activity 3.3 related to manufacturing of cars has not been included in our calculations of alignment.
- We want to ensure certainty that our future cars can meet all requirements of the chemicals list, including the candidate list, prior to making a commitment to a CapEx plan. Therefore, we have not included CapEx and OpEx for Activity 3.3 related to future car programs, as we cannot currently commit to the assumption that all future cars will be aligned. We are conscious that we have taken a conservative approach for 2022. In 2023 we will investigate and assess the candidate list further to understand essential use and potential future alignment. This has resulted 0% alignment for CapEx and OpEx respectively.

***DNSH***

*Climate adaption*

For 2022, we assessed our compliance with climate adaption by performing climate risk assessments of our manufacturing sites. We assessed that material physical climate risks have been identified, and a robust climate risk and vulnerability assessment has been performed. This included assessment of adaption solutions for physical climate risk and considered IPCC pathways 4.5 and 8.5 with the time horizons 2030, 2050 and 2100.

For more information on our climate-adaption activities, see pages 55 to 58.

Based on our assessment we have concluded that we are compliant and hence meet the DNSH to climate adaption criteria for Activities 3.3.

*Water and Biodiversity*

In 2022, to assess our compliance with the DNSH criteria related to water and biodiversity we conducted GAP-analyses regarding the permit status, including the Environmental Impact Assessment (EIA) status, for our manufacturing plants.

EIAs have been carried out at all our European manufacturing sites as part of the regular permit processes of the manufacturing plants. For Volvo Cars Torslanda an EIA was carried out in 2022 as part of an inventory performed in the permit process for its battery plant. As part of these processes, water risks have been assessed in accordance with relevant regulations, and where needed, procedures have been put in place to mitigate risks related to preserving water quality and avoiding water stress. There are currently no requirements in our permits related to mitigation or compensation measures on biodiversity. However, Volvo Cars seeks to continuously reduce the negative impact of its manufacturing plants on water and biodiversity. For our sites outside of the EU, a checklist has been developed to assess compliance according to the level of the European Directive, as well as according to KBA (Key Biodiversity Areas), WRI (Water Risk Index) and local legal requirements.

For more information, see page 160 on our water use and page 158 on biodiversity.

Based on our assessment we have concluded that we are compliant and hence meet the DNSH to water and biodiversity criteria for Activity 3.3.

*Circular economy*

To assess our compliance with DNSH criteria we assessed our production activity for the availability of techniques and ability to implement techniques to support circular economy. This included an assessment of reuse and use of secondary raw materials and design of our cars for durability, recyclability and disassembly; waste management practices that prioritise recycling; and the traceability of substances of concern in all production and spare parts.

For 2022 we assessed that we have ambitious targets on recycled content and secondary raw materials, which can be found on pages 42 and 43. We have a policy on substances of concern and trace the chemicals within the policy using the International Material Data System (IMDS) platform, which is an online platform used within the automobile industry.

Based on our assessment we have concluded that we meet the DNSH criteria for circular economy for Activity 3.3.

*Pollution prevention*

In our assessment for Activity 3.3, we have concluded we are not aligned with the DNSH criteria for pollution prevention. This is due to our interpretation of "essential use" within Appendix C section (g) where the regulation states, "The activity does not lead to the manufacture, placing on the market or use of":

"(g) other substances, whether on their own, in mixtures or in an article, that meet the criteria laid down in (6) Article 57 of Regulation (EC) 1907/2006, except where their use has been proven to be essential for the society."

Use of Chemicals

It should be noted that we meet all other criteria, sections (a) to (f), related to Appendix C (or the 'chemicals list'). The regulation in Section (g) of Appendix C is referring to the candidate list, which are chemical substances of concern listed by the EU but that are not prohibited for use in the EU.

In relation to Volvo Cars' interpretation of the "manufacture, placing on the market or use of", we have made the assessment, to the best of our knowledge, that Volvo Cars do not manufacture any of the chemicals on the candidate list or place them in their pure form on the market. However, chemicals on the list are used in our manufacturing processes. Further, chemicals on the list exist within the car parts that we procure from our suppliers (for example, airbag, antenna or brake pipe), where the supplier chooses to use those chemicals in order to fulfil quality, safety and other requirements placed on those components.

### Defining Essential Use

For our interpretation of "essential for society", we relied on the Montreal Protocol to help define what is "essential" and considered the following:

- Is the chemical necessary for the health, safety or critical functioning of society?
- Are there any available alternatives/substitutes that are technically/economically feasible?
- Have steps have been taken to minimise essential use of the chemical?

We developed a detailed criteria to assess 'essential use' across each car model, car part and chemical within each car part:

- The car model must be essential for society – we concluded this as being BEVs and PHEVs only, as we consider these cars to be essential for society to transition to a net zero economy.
- The car part must be essential – the part must either be in the vehicle for safety reasons (e.g., airbag) or essential for the electrification of that vehicle (e.g., battery).
- The chemical must then be essential for that car part – there should be no economically or technically feasible alternative and the supplier must have taken steps to minimise the use of the chemical.

### Process

We used the REACH Candidate List regulation* as a starting point, that highlighted there were approximately 150–400 car parts per model that had at least one chemical listed. There are approximately 30–50 chemicals across the 150–400 car parts.

It should be noted that the chemicals listed within the candidate list are not unique to Volvo Cars' vehicles. For example, one of the most common chemicals found was Lead [7439-91-1] that is prevalent within multiple car parts like the: battery, antenna, camera, control unit, door lock, LED lamp (light) and USB charging cable. The vast majority of parts within our cars we have classified as essential (for example airbags within our BEVs), however, as soon as one part has a chemical on the candidate list the whole vehicle is assessed as not aligned.

### Conclusion

We have assumed the Taxonomy to have higher ambitions than previous regulations relating to the use of chemicals. Volvo Cars recognises the effort required for the automotive industry to phase out the chemicals listed within the candidate list for all car parts that exist within manufactured vehicles.

While we have ambitions for future vehicles to be aligned, we made the decision to be conservative on our CapEx and OpEx alignment values for 2022 which is reflected in the results within the tables on pages 186 and 188.

Based on our assessment we have concluded that we are not compliant with Appendix C and hence do not meet the DNSH to pollution prevention criteria for Activity 3.3.

## Activity 6.5 Transport

### *Substantial contribution*

The substantial contribution technical screening criteria for Activity 6.5 is the same as Activity 3.3.

In 2022, all BEVs and PHEVs, except certain versions of the XC40 Recharge PHEV, meet the 50g of $CO_2$ per km criteria. This equates to 32% of turnover for Activity 6.5 that meet the substantial contribution criteria. All other vehicles (i.e. all our ICE vehicles including MHEVs and the aforementioned XC40 PHEVs) do not meet the substantial contribution criteria. Despite meeting the substantial contribution criteria, we have 0% aligned turnover for Activity 6.5 due to the DNSH criteria for pollution prevention.

In calculating aligned CapEx and OpEx for Activity 6.5, we have made the following assumption:

- We have excluded all CapEx and OpEx of investments relating to Volvo on Demand as we have assessed that our current vehicles are not aligned.

This has resulted in 0% alignment for CapEx and OpEx respectively.

### *DNSH*

#### *Climate adaption*

We applied our climate assessment of our manufacturing plants (3.3) to our leasing operation (6.5), as we manufacture the vehicles we lease. Please refer to DNSH Climate Adaption for 3.3 for more information.

Based on our assessment we have concluded that we are compliant and hence meet the DNSH to climate adaption criteria for Activity 6.5.

#### *Water and biodiversity*

The DNSH criteria for water and biodiversity does not apply to Activity 6.5.

#### *Circular economy*

To assess our compliance with DNSH criteria for Activity 6.5 we assessed the reusability, recyclability and recoverable material in our vehicles. We also assessed whether measures were in place to manage waste in the use phase and end-of-life of the fleet, including batteries and electronics, in accordance with the waste hierarchy. In 2022, we assessed the following:

- More than 85% of the volume of our vehicles is reusable or recyclable and more than 95% is reusable or recoverable.
- Measures are taken to manage waste in the use and end-of-life phases of our vehicles, including battery contents.

For more information, please refer to pages 42 and 43.

Based on our assessment we have concluded that we meet the DNSH criteria for circular economy for Activity 6.5.

#### *Pollution prevention*

In our assessment for Activity 6.5, we have concluded we are not aligned with the DNSH criteria for pollution prevention.

Below are additional details of our compliance with each sub-requirement for the pollution DNSH criteria:

| Requirement | Assessment – BEVs |
|---|---|
| Compliance the Euro 6 light-duty emission type approval | Aligned |
| Emission thresholds** for clean light-duty vehicles | Aligned |
| M1 and N1***, tires comply with external rolling noise requirements in the highest populated class | Not aligned |
| Rolling Resistance Coefficient (influencing vehicle energy efficiency) in the two highest populated classes | Aligned |
| Regulation (EU) No. 540/2014 (noise and sound-level limits for motor vehicles) | Aligned |

The external rolling noise requirement is one of the main limitations to our BEVs complying with the criteria for Activity 6.5. Currently, 13% of our tires meet the rolling noise requirement.

We have previously focused on noise requirements of the whole vehicle, whereas the taxonomy regulation introduces an additional noise requirement specific to the tires. Currently there is a

*) Article 57 of Regulation (EC) 1907/2006.
**) This requirement for BEVs is not applicable as there are no real driving emissions thresholds applied to BEVs.
***) M1 vehicles meaning motor vehicles with not more than eight seating positions in addition to the driver's seating position and without space for standing passengers, regardless of whether the number of seating positions is restricted to the driver's seating position. N1 vehicles meaning motor vehicles with a maximum mass not exceeding 3,5 tonnes.

trade-off between the noise pollution and rolling resistance of our tires and the safety-related performance, for example performance in wet conditions.

Volvo Cars will never compromise or sacrifice the safety of our customers. We are currently looking into alternative tires, however we need to investigate options that do not compromise the safety of our customers. In 2023, we will investigate options to reduce external rolling noise from our BEV and PHEV fleet.

Based on our assessment we have concluded that we are not compliant and hence do not meet the DNSH to pollution prevention criteria for Activity 6.5.

**Activity 7.4 Construction and real estate**
***Substantial contribution***
The technical criteria for Activity 7.4 is to engage in the installation, maintenance or repair of charging stations for electric vehicles.

In 2022, Volvo Cars complied with this criteria. The turnover, CapEx and OpEx for this activity are applicable to our operations in the US, Brazil, Belgium, Sweden and China. We have recently launched our charging stations and hence the resulting aligned KPIs are 0% for turnover, CapEx and OpEx. In 2023, we aim to undertake physical climate adaption assessments that align with the DNSH criteria for our charging station locations.

***DNSH***
*Climate adaption*
For Activity 7.4, we have not yet completed a physical climate adaption assessment that aligned with the DNSH climate adaption criteria at all charging station locations. For charging stations at manufacturing sites, the assessment has been completed as part of the physical risk assessment of our sites. For 2023, we plan to undertake physical climate adaption assessments of our charging station locations. We also note our charging stations are in partnership with external third parties and are placed at locations not owned by Volvo Cars.

For Activity 7.4 the required assessments have not been carried out and thus we cannot claim compliance.

*Water , Circular economy, Biodiversity and Pollution prevention*
The DNSH criterias does not apply to Activity 7.4.

**Minimum safeguards criteria**
The EU Taxonomy requires companies to abide by the OECD Guidelines for Multinational Enterprises (MNE) and the UN Guiding Principles on Business and Human Rights (UN GP), including the principles and rights set out in the eight fundamental conventions identified in the Declaration of the International Labour Organization on Fundamental Principles and Rights at Work, and the International Bill of Human Rights. To be compliant with the minimum safeguards, the companies' economic activities should align with the OECD Guidelines for MNEs and with the UNGP to ensure they do no significant harm to any social objectives.

In 2022, we followed guidance from the Final Report on Minimum Safeguards to assess our compliance. In accordance with the minimum safeguards relating to human rights, we have assessed, to the best of our knowledge, we are compliant with the minimum safeguards. In our assessment and by using available information:

- We have established adequate human rights due diligence processes, as outlined in the UN Guiding Principles and the OECD Guidelines for Multinational Enterprises.
- We have not finally been held liable or found to be in breach of labour law or human rights in certain types of court cases on labour law or on human rights.
- We have not declined requests to engage with a National Contact Point (NCP) or other relevant parties and have not been found to contravene the OECD Guidelines by an NCP.
- We have not been the subject of allegations from the Business and Human Rights Resource Centre (BHRRC).

In accordance with the minimum safeguards relating to corruption, taxation and fair competition, we have assessed that to the best of our knowledge we are compliant with the minimum safeguards. In our assessment we considered:

- Anti-corruption processes, and any convictions of corruption for senior management (including senior management of subsidiaries).
- Treatment of governance and compliance as important elements of oversight.
- Adequacy of tax risk management strategies and processes (including subsidiaries) and violation of tax laws.
- Promotion of the importance of compliance with all applicable laws and regulations among our employees.
- Convictions of violating competition laws for senior management (including senior management of subsidiaries).

For more information on corruption, taxation and fair competition, please refer to pages 177 to 179.

In our assessment, our current processes and procedures meet the requirements for alignment in 2022. We seek to continually improve our due diligence processes and are working towards meeting the standards of the upcoming Corporate Sustainability Due Diligence Directive, as well as The World Benchmarking Alliance's 12 core indicators used in the Corporate Human Rights Benchmark. This will help us identify areas for improvement in our human rights due diligence process. For more information about our due diligence processes and human rights, see page 180.

## Looking ahead

The objectives of the Taxonomy align with our ambitious science-based climate action plan and our ambition to be a fully electric car company by 2030. We aim to fulfil the technical screening criteria of 0g $CO_2$ per km for all Volvo Cars manufactured vehicles by 2030.

Based on the current technical screening criteria we remain ambitious on our future alignment with the EU Taxonomy. We are conservative in our interpretations of the EU taxonomy in our 2022 report, however, remain ambitious in our sustainability targets in the mid and long term.

Taxonomy alignment results for turnover, CapEx and OpEx in FY2022 depends on the individual interpretation at each company of some key areas in the EU taxonomy, particularly related to "essential use" of chemicals. We remain transparent in our interpretations of the Taxonomy for 2022, and we will use results published in 2023 to benchmark our interpretations with peers. We will also continue to engage with the automotive industry to push for more specific guidelines to the Taxonomy.

In 2023, we will focus on increasing the compliance of our eligible activities to the DNSH areas and increase taxonomy alignment towards our mid and long-term ambitions. We intend to engage with suppliers to understand their capabilities of phasing out chemicals on the candidate list as well as phasing out the use of tires that do not comply with the DNSH criteria for pollution prevention.

## Proportion of turnover from products or services associated with Taxonomy-aligned economic activities – disclosure covering year 2022

| Turnover | | | | Criteria regarding substantial contribution | | Criteria regarding DNSH | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Economic activities | Code(s) | Absolute turnover | Proportion of turnover | Climate change mitigation | Climate change adaption | Climate change mitigation | Climate change adaptation | Water and marine resources | Circular economy | Pollution | Biodiversity and eco-systems | Minimum safeguards | Taxonomy-aligned proportion of turnover, year 2022 | Taxonomy-aligned proportion of turnover, year 2021 | Category (enabling activity or) | Category (trans-actional activity) |
| Type of data | | SEKm | % | % | % | Y/N | Y/N | Y/N | Y/N | Y/N | Y/N | Y/N | % | % | E | T |
| **A. Taxonomy-eligible activities** | | | | | | | | | | | | | | | | |
| **A.1 Environmentally-sustainable activities (Taxonomy-aligned)** | | | | | | | | | | | | | | | | |
| **Turnover of environmentally sustainable activities (Taxonomy-aligned) (A.1)** | | **0** | **0%** | | | | | | | | | | **0%** | | | |
| **A.2 Taxonomy-Eligible but not environmentally sustainable activities** | | | | | | | | | | | | | | | | |
| Manufacturing: Manufacture of low carbon technologies for transport | 3.3 | 252,747 | 77% | 100% | 0% | N/A | Y* | Y | Y | N* | Y | Y | 0% | N/A | E | – |
| Transport: Transport by motorbikes, passenger cars and light commercial vehicles | 6.5 | 4,057 | 1% | 100% | 0% | N/A | Y* | N/A | Y | N** | N/A | Y | 0% | N/A | – | T*** |
| Construction and real estate: Installation, maintenance and repair of charging stations for electric vehicles in buildings | 7.4 | 0 | 0% | 100% | 0% | N/A | Y* | N/A | N/A | N/A | N/A | Y | 0% | N/A | E | – |
| **Turnover of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)** | | **256,804** | **78%** | | | | | | | | | | **0%** | | | |
| Total sum (A.1 + A.2) | | 256,804 | 78% | | | | | | | | | | 0% | | | |
| **B. Taxonomy-non-eligible activities** | | | | | | | | | | | | | | | | |
| Turnover of Taxonomy-non-eligible activities (B) | | 73,341 | 22% | | | | | | | | | | 0% | | | |
| **Total (A+B)** | | **330,145** | **100%** | | | | | | | | | | | | | |

*) VCC fulfills all criteria except one. SCVH substances listed in the Candidate list are present in Volvo Cars components. We will not claim anything yet in terms of the wording of "essential use" since an official definition has not yet been made by the EU.

**) Criteria 1) All Volvo Cars vehicles compy with Regulation (EC) No. (715/2007); Criteria 2) Out of the cars that are applicable non comply to the RDE limits; Criteria 3) Highest percentage of compliance regarding external rolling noice requirements is for XC40 BEV and C40 BEV and is 13%; Criteria 4) In terms of the The Rolling Resistance Coefficient in the two highest populated classes as set out in Regulation (EU) 2020/740 all BEV tyres comply, for the PHEVs up to 98% of tyres comply (XC40 Recharge) and the lowest level of compliance is for the XC90 Recharge, where 71% of all tyres comply; Criteria 5) VCC complies with Regulation 540/2024.

***) All BEV vehicles meet the criteria of 0g/km. All PHEVs (excluding the XC40) meet the criteria of <50g/km and therefore are classified as a transitional activity in accordance with Article 10(1), point (i), of Regulation (EU) 2020/852.

## Proportion of CapEx from products or services associated with Taxonomy-aligned economic activities – disclosure covering year 2022

| CapEx | | | | Criteria regarding substantial contribution | | Criteria regarding DNSH | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Economic activities | Code(s) | Absolute CapEx | Proportion of CapEx | Climate change mitigation | Climate change adaption | Climate change mitigation | Climate change adaptation | Water and marine resources | Circular economy | Pollution | Bio-diversity and eco-systems | Minimum safeguards | Taxonomy-aligned proportion of CapEx, year 2022 | Taxonomy-aligned proportion of CapEx, year 2021 | Category (enabling activity or) | Category (trans-actional activity) |
| Type of data | | SEKm | % | % | % | Y/N | Y/N | Y/N | Y/N | Y/N | Y/N | Y/N | % | % | E | T |
| **A. Taxonomy-eligible activities** | | | | | | | | | | | | | | | | |
| **A.1 Environmentally-sustainable activities (Taxonomy-aligned)** | | | | | | | | | | | | | | | | |
| **Capex of environmentally sustainable activities (Taxonomy-aligned) (A.1)** | | **0** | **0%** | | | | | | | | | | **0%** | | | |
| **A.2 Taxonomy-Eligible but not environmentally sustainable activities** | | | | | | | | | | | | | | | | |
| Manufacturing: Manufacture of low carbon technologies for transport | 3.3 | 30,970 | 85% | 100% | 0% | N/A | Y* | Y | Y | N* | Y | Y | 0% | N/A | E | – |
| Transport: Transport by motorbikes, passenger cars and light commercial vehicles | 6.5 | 70 | 0% | 100% | 0% | N/A | Y* | N/A | Y | N** | N/A | Y | 0% | N/A | – | T*** |
| Construction and real estate: Installation, maintenance and repair of charging stations for electric vehicles in buildings | 7.4 | 35 | 0% | 100% | 0% | N/A | Y* | N/A | N/A | N/A | N/A | Y | 0% | N/A | E | – |
| **Capex of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned** | | **31,075** | **85%** | | | | | | | | | | **0%** | | | |
| Total sum (A.1 + A.2) | | 31,075 | 85% | | | | | | | | | | 0% | | | |
| **B. Taxonomy non-eligible activities** | | | | | | | | | | | | | | | | |
| CapEx of non Taxonomy-eligible activities (B) | | 5,505 | 15% | | | | | | | | | | 0% | | | |
| **Total (A+B)** | | **36,580** | **100%** | | | | | | | | | | | | | |

*) VCC fulfills all criteria except one. SCVH substances listed in the Candidate list are present in Volvo Cars components. We will not claim anything yet in terms of the wording of "essential use" since an official definition has not yet been made by the EU.

** Criteria 1) All Volvo Cars vehicles compy with Regulation (EC) No. (715/2007); Criteria 2) Out of the cars that are applicable non comply to the RDE limits; Criteria 3) Highest percentage of compliance regarding external rolling noice requirements is for XC40 BEV and C40 BEV and is 13%; Criteria 4) In terms of the The Rolling Resistance Coefficient in the two highest populated classes as set out in Regulation (EU) 2020/740 all BEV tyres comply, for the PHEVs up to 98% of tyres comply (XC40 Recharge) and the lowest level of compliance is for the XC90 Recharge, where 71% of all tyres comply; Criteria 5) VCC complies with Regulation 540/2024.

***) All BEV vehicles meet the criteria of 0g/km. All PHEVs (excluding the XC40) meet the criteria of <50g/km and therefore are classified as a transitional activity in accordance with Article 10(1), point (i), of Regulation (EU) 2020/852.

### Proportion of OpEx from products or services associated with Taxonomy-aligned economic activities – disclosure covering year 2022

| OpEx | | | | Criteria regarding substantial contribution | | Criteria regarding DNSH | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Economic activities | Code(s) | Absolute OpEx | Proportion of OpEx | Climate change mitigation | Climate change adaption | Climate change mitigation | Climate change adaptation | Water and marine resources | Circular economy | Pollution | Bio-diversity and eco-systems | Minimum safeguards | Taxonomy-aligned proportion of OpEx, year 2022 | Taxonomy-aligned proportion of OpEx, year 2021 | Category (enabling activity or) | Category (trans-actional activity) |
| Type of data | | SEKm | % | % | % | Y/N | Y/N | Y/N | Y/N | Y/N | Y/N | Y/N | % | % | E | T |
| **A. Taxonomy-eligible activities** | | | | | | | | | | | | | | | | |
| **A.1 Environmentally-sustainable activities (Taxonomy-aligned)** | | | | | | | | | | | | | | | | |
| **OpEx of environmentally sustainable activities (Taxonomy-aligned) (A.1)** | | **0** | **0%** | | | | | | | | | | **0%** | | | |
| **A.2 Taxonomy-eligible but not environmentally sustainable activities** | | | | | | | | | | | | | | | | |
| Manufacturing: Manufacture of low carbon technologies for transport | 3.3 | 4,996 | 84% | 100% | 0% | N/A | Y* | Y | Y | N* | Y | Y | 0% | N/A | E | – |
| Transport: Transport by motorbikes, passenger cars and light commercial vehicles | 6.5 | 92 | 2% | 100% | 0% | N/A | Y* | N/A | Y | N** | N/A | Y | 0% | N/A | – | T*** |
| Construction and real estate: Installation, maintenance and repair of charging stations for electric vehicles in buildings | 7.4 | 6 | 0% | 100% | 0% | N/A | Y* | N/A | N/A | N/A | N/A | Y | 0% | N/A | E | – |
| **OpEx of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned** | | **5,094** | **86%** | | | | | | | | | | **0%** | | | |
| Total sum (A.1 + A.2) | | 5,094 | 86% | | | | | | | | | | 0% | | | |
| **B. Taxonomy-non-eligible activities** | | | | | | | | | | | | | | | | |
| OpEx of Taxonomy-non-eligible activities (B) | | 847 | 14% | | | | | | | | | | 0% | | | |
| **Total (A+B)** | | **5,942** | **100%** | | | | | | | | | | | | | |

*) VCC fulfills all criteria except one. SCVH substances listed in the Candidate list are present in Volvo Cars components. We will not claim anything yet in terms of the wording of "essential use" since an official definition has not yet been made by the EU.
**) Criteria 1) All Volvo Cars vehicles compy with Regulation (EC) No. (715/2007); Criteria 2) Out of the cars that are applicable non comply to the RDE limits; Criteria 3) Highest percentage of compliance regarding external rolling noice requirements is for XC40 BEV and C40 BEV and is 13%; Criteria 4) In terms of the The Rolling Resistance Coefficient in the two highest populated classes as set out in Regulation (EU) 2020/740 all BEV tyres comply, for the PHEVs up to 98% of tyres comply (XC40 Recharge) and the lowest level of compliance is for the XC90 Recharge, where 71% of all tyres comply; Criteria 5) VCC complies with Regulation 540/2024.
***) All BEV vehicles meet the criteria of 0g/km. All PHEVs (excluding the XC40) meet the criteria of <50g/km and therefore are classified as a transitional activity in accordance with Article 10(1), point (i), of Regulation (EU) 2020/852.

# Green Financing Report

In late May 2022, Volvo Cars successfully issued its second green bond ("the Second Green Bond"). The transaction was well received by investors and marked yet another step in accelerating the company's transformation towards becoming a fully electric carmaker by 2030, as well as a climate-neutral company by 2040. Over two thirds of the proceeds will fund the research and development of electric powertrains for next-generation all-electric Volvo cars and related new platform technology. The remainder will be invested in boosting the company's production capacity of fully electric cars. As part of the group's ambition to have all Outstanding Debt in a green or sustainability-linked format by mid-decade and to diversify the source of external debt, two new bilateral green loan agreements ("SEK Green Loan" and "EUR Green Loan", collectively referred to as "the Green Loans") were entered during the year. The sustainability-linked revolving credit facility (the Credit Facility) was also extended and remains undrawn, as of December 2022.

### *The Green Financing Framework*

The Green Financing Framework ("the Framework") is part of Volvo Car Group's sustainability strategy. Its deliverables strengthen the company's focus on clean transportation by contributing to climate change mitigation, through Volvo Cars' transition to zero tailpipe-emission vehicles. In order to oversee the Framework and to review and validate the selection of eligible green projects under the Framework, GMT has established a Green Finance Committee, consisting of representatives from finance and the global sustainability team. The Framework is aligned with both the ICMA Green Bond Principles (GBP) and the LMA Green Loan Principles (GLP) and a Second Party Opinion with a Dark Green shading is provided by Cicero. Included in the overall shading is an assessment of the governance structure, which is rated excellent. Deloitte has performed a limited assurance of the Green Financing Report, including the allocation and impact reporting, in line with ISAE 3000, see page 198 for the Limited Assurance Report. For more information about the Framework and Cicero's statement, please see https://investors.volvocars.com/en/debt-information/green-financing.

### *Terms and conditions*

The first green bond of MEUR 500 matures in 2027 and has a fixed coupon rate of 2.50 per cent. The Second Green Bond of MEUR 500 matures in 2028 and has a fixed coupon rate of 4.25 per cent. Both are listed on the Luxembourg Stock Exchange. The Green Loans are two separate facilities, having different terms and conditions, but are both connected to the Framework. The Credit Facility of MEUR 1,300 is a three-year facility with two one-year extension options. On 28 November, 2022, Volvo Cars utilised its second and final extension option and, as a result, extended the Credit Facility to 2026.

### *Allocation Report and Use of Proceeds*

The net proceeds from any issuance of either green bonds or green loans under the Framework will be used to finance and/or refinance, in whole or in part, new or existing projects, assets and activities according to the Eligibility Criteria ("Eligible Green Projects") outlined in the Framework. A few examples include the proceeds from the Second Green Bond and the Green Loans, which will finance and be part of enabling and conducting the research and development of Volvo Cars' second-generation Battery Electric Vehicle (BEV) architecture and state-of-the-art electric propulsion technology – both of which are found in the new flagship Volvo EX90 BEV.

| Use of Proceeds and Allocation as per December 31st | Green Bonds | | Green Loan Facilities | |
|---|---|---|---|---|
| **Issuance/Date of signing** | Oct 2020 | May 2022 | May 2022 | Dec 2022 |
| **Maturity** | Oct 2027 | May 2028 | May 2030 | Dec 2030 |
| **ISIN** | XS2240978085 | XS2486825669 | N/A | N/A |
| **Currency** | EUR | EUR | SEK | EUR |
| **Amount Issued (mn)** | 500 | 500 | 1000 | 200 |
| **Amount drawn (mn)** | N/A | N/A | 1000 | 0 |
| **Unallocated[1] (%)** | **0.0** | **19.2** | **0.0** | **0.0** |
| **Allocated[2] (%)** | **100.0** | **80.8** | **100.0** | **0.0** |
| **Finance (%)** | **4.4** | **51.2** | **65.0** | **0.0** |
| R&D | 2.7 | 45.8 | 65.0 | 0.0 |
| Manufacturing[3] | 1.8 | 5.5 | 0.0 | 0.0 |
| Other | 0.0 | 0.0 | 0.0 | 0.0 |
| **Refinance (%)** | **95.6** | **29.6** | **35.0** | **0.0** |
| R&D | 31.2 | 29.6 | 0.0 | 0.0 |
| Manufacturing[3] | 33.1 | 0.0 | 35.0 | 0.0 |
| Other[4] | 31.2 | 0.0 | 0.0 | 0.0 |

| | **2022** | 2021 | 2020 | 2019 |
|---|---|---|---|---|
| **Share of green debt or sustainability-linked financing of assets eligible under the Green Financing Framework as percentage of Outstanding Debt[5] (%)** | 41.6 | 20.2 | 14.5 | 0.0 |

(1) Refers to total amount of unallocated proceeds invested in cash and/or cash equivalent and/or other liquid marketable instruments earmarked for Eligible Green Projects as of 31 December 2022.
(2) Refers to total amount of allocated proceeds in Eligible Green Projects as of 31 December 2022.
(3) Includes tooling and facilities
(4) Equity injection in Polestar
(5) See Note 20 – Financial Instruments and Financial Risks for definition of Outstanding Debt. For more information about the Green Financing Framework, please see https://investors.volvocars.com/en/debt-information/green-financing.

The Use of Proceeds and Allocation as per 31 December table outlines all outstanding debt financing issued under the Framework, the respective allocation of proceeds to the category of Eligible Green Projects ("R&D", "Manufacturing" or "Other") and the share of green or sustainability-linked funding, over time, as of 31 December, 2022. The balance of unallocated net proceeds will be earmarked and invested in cash, cash equivalent and/or other liquid marketable instruments, in accordance with the Framework.

Approximately 81 per cent of the funds from the Second Green Bond offer have been allocated. The proceeds from the first green bond offering in October 2020, as well as the SEK Green Loan have been fully allocated. The EUR Green Loan is still undrawn and therefore unallocated.

***Impact Report***

The environmental impacts and benefits of the Eligible Category Clean Transportation are estimated and evaluated using the selected impact indicators listed in the Impact Report table. As the estimated impact of the allocated proceeds will be realised over several years and will be dependent on levels of future BEV vehicles manufacturing and sales volumes, it is not possible to precisely attribute the share of allocated proceeds to the specific indicators. Therefore, Volvo Cars has selected the annual corporate performance of these impact indicators as the representation of the environmental impact of the allocated proceeds. In our view, the positive development of these indicators over time is the best indication that the allocated proceeds will give the expected environmental benefits of clean transportation and contribute to the climate change mitigation objective. For definitions and calculation methodology of the indicators, see the Sustainability Performance Report on page 150–192.

| Impact Report | **2022** | 2021 | 2020 | 2019 |
|---|---|---|---|---|
| Fully electric vehicles (BEVs) sold | 66,749 | 25,727 | 4,659 | — |
| Fully electric vehicles (BEVs) sold (%) | 10.9 | 3.7 | 0.7 | — |
| Total $CO_2$ tailpipe emissions avoided (kilo tonnes)[5,6] | 1,870 | 750 | 150 | — |
| Tailpipe $CO_2$ emission reduction per vehicle (baseline 2018)[1,2,3] | –31.5 | –21.7 | –12.7 | –3.1 |

For more information on the reporting methodology and the assumptions applied, see Annual Report 2022 page 194–196.

# Volvo Cars and the UN Sustainable Development Goals

In 2015, the United Nations established its 17 Sustainable Development Goals (SDGs) as a blueprint for achieving a better and more sustainable future for all. Volvo Cars is committed to supporting the SDGs and uses them as a guide in our sustainability work. Our products and operations have the largest impact on SDG 3, 5, 7, 8, 11, 12, 13 and 16. In addition, we contribute to SDG 1, 4, 6, 9 and 17. We recognise that Volvo Cars has both a positive and negative effect on the SDGs and aim to increase our positive impact and reduce our negative impact, where possible.

Abbreviations:
- Code of Conduct = CoC
- Code of Conduct for Business Partners = CoC BP

| UN SDG Goal | Examples of Volvo Cars impact and/or contribution (SDG sub target reference X.X) |
|---|---|
| 1 | • We aim to ensure a living wage for our employees, as well as for the workers throughout our value chain . Volvo Cars supports the requirements of the International Labour Organization (ILO) and expects its Business Partners to adhere to and respect the ILO standards. (1.2). |
| 3 | • Safety is at the core of our business. We have established a zero-collision vision and strategy. (3.6)<br>• We have incremental goals to reduce Carbon emissions and aim to become a climate-neutral company by 2040. (3.9) |
| 4 | • In collaboration with academic institutions and by providing job training for unemployed people, we aim to building a better future for local communities (4.4) |
| 5 | • Our business culture is described in our CoC and People Policy. (5.1, 5.2)<br>• Volvo Cars Family Bond offers gender-neutral parental leave to all employees. (5.4)<br>• We seek to increase gender equality, both in terms of pay and senior management positions. (5.5) |
| 6 | • By the middle of this decade, we aim to reduce water consumption in our manufacturing operations by 40 per cent per vehicle (2018 baseline). (6.4) |
| 7 | • By the middle of this decade, we aim to use only climate-neutral energy in our operations and encourage our Tier 1 suppliers to also meet this objective. (7.2)<br>• By the middle of this decade, we aim to reduce energy consumption in our manufacturing operations by 30 per cent per vehicle (2018 baseline) and increase the energy efficiency of our products. (7.3) |
| 8 | • Through our growth, electrification and digitalisation strategies, we create jobs and sustainable development. (8.2, 8.5)<br>• We aim to become a circular business (8.4)<br>• We aim to build a better future in local communities, through education, job training and employment. (8.6)<br>• We aim to protect human rights within our organisation and throughout our value chain. (8.7, 8.8) |
| 9 | • We have strategic programs for sustainability and electrification, with interim and long-term objectives. (9.4) |
| 11 | • We support safe and sustainable mobility through electrification, safety technology and car sharing offers. Safety is at the core of our business. We have a zero-collision vision and strategy. We are active participants in the Gothenburg Green City Zone project. (11.2, 11.3) |
| 12 | • By contributing to the circular economy, we aim to significantly reduce waste and consumption of virgin raw materials. We seek to optimise the lifecycles of our products and components (12.2, 12.4, 12.5)<br>• We publish our sustainability report in accordance with international standards and guidelines. (12.6) |
| 13 | • We are committed to reducing the carbon footprint of our value chain. We aim to become a climate-neutral company by 2040, in line with the goals of the Paris Agreement. (13.1)<br>• Our measures to limit climate change are defined in our sustainability strategy (13.2)<br>• We inform and influence our stakeholders on the importance of climate change mitigation through stakeholder dialogue, position papers and conferences, among other measures. (13.3) |
| 16 | • We have a zero-tolerance for discrimination, harassment and bullying. (16.1)<br>• Volvo Cars and its business partners work actively to prevent all forms of child labour. We aim to ensure there are no forced labour of any kind relating to Volvo Cars' business, products and services. (16.2)<br>• We monitor adherence to our CoC and CoC BP. We encourage concerns or suspected violations to be reported via the Tell-us grievance channel for investigation and action. (16.3)<br>• Volvo Cars strives to act at all times as a fair and responsible market participant and expects the same from its Business Partners. (16.5)<br>• We respect the right to privacy and take all appropriate precautions to protect personal data. (16.10) |
| 17 | • We inform and influence our stakeholders on the importance of climate change mitigation through stakeholder dialogue, position papers and conferences, among other measures. (17.16)<br>• We are reference group members of the Swedish Government's National Collaboration Agenda 2030 and support its principles for sustainable development. (17.17) |

# Sustainability ratings and assessments of ESG performance

We engage with several ESG assessments and are pleased that our performance has improved over recent years. These ratings confirm that we are well on track with our sustainability ambitions.

| Sustainability ratings | Interval | Score | Date |
|---|---|---|---|
| **CDP Climate**<br>– For more information: CDP | D– to A | **A** | As of Dec. 13, 2022 |
| **CDP Water**<br>– For more information: CDP | D– to A | **B –** | As of Dec. 13, 2022 |
| **EcoVadis**<br>– For more information: EcoVadis | 1–100 | **72** | As of Dec. 20, 2022 |
| **Ellen MacArthur Foundation – Circulytics***<br>– For more information: Ellen MacArthur Foundation | A to E | **B –** | As of Mar. 2, 2023 |
| **ISS ESG Corporate Rating**<br>– For more information: ISS | D– to A+ | **C** | As of Feb. 20, 2023 |
| **MSCI ESG Rating****<br>– For more information: MSCI | CCC to AAA | **BBB** | As of Feb. 20, 2023 |
| **S&P Global Corporate Sustainability Assessment (CSA)**<br>– For more information: S&P Global | 1–100 | **75** | As of Dec. 16, 2022 |
| **Sustainalytics ESG Risk Rating overall score*****<br>– For more information: Sustainalytics | Severe (40+) to Negligible (>10) | **17.1** | As of Feb, 20, 2023 |

*The score is based on information and data provided by the submitting company and no verification of the data has been done by the Ellen MacArthur Foundation.

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# About this sustainability report

Volvo Car Group's 2022 sustainability report was prepared in accordance with GRI standards. The report was also prepared in accordance with the World Economic Forum white paper, Measuring Stakeholder Capitalism, Core Metrics and Disclosures. This report covers the period 1 January to 31 December 2022 (except where otherwise stated). Our previous report was published in April 2022. Volvo Car Group's sustainability report is also prepared in accordance with the Swedish Annual Accounts Act 6, Chapter 11§.

Our sustainability reporting is found on pages 38 to 46 and 148 to 196 of this report, with the enterprise risk management information on pages 54 to 58. Definitions regarding boundaries, as well as measuring techniques and calculations for performance indicators, are given in respect to the disclosure concerned. There were no significant reporting changes since the previous reporting period. Our auditors have given limited assurance that the sustainability report is in accord with ISAE 3000, see page 197. We were in 2022 an early adopter company of UNGC's new Communication of Progress (COP) online submission tool and our 2022 COP is published on the UNGC website.

Additionally, we continuously identify, analyse, and, if relevant, select different initiatives and schemes that support and externally validate our ambitions. Climate action and financial risks related to climate change are focus areas for Volvo Cars. Therefore, the Task Force on Climate-Related Financial Disclosures (TCFD) is an initiative whose eleven recommended disclosures have been incorporated into the Annual Report.

For full GRI, WEF and TCFD indexes, references linked to statutory sustainability reporting according to the Swedish Annual Accounts Act and our sustainability polices, see appendices: Sustainability reference index.

**Internal control over sustainability reporting**
We have an internal control system for sustainability reporting. Process maps for all KPIs and our internal control activities are documented in Volvo Car Group's Internal Control framework for sustainability reporting.

### SUSTAINABILITY TEAM

The Sustainability Team is responsible for the day-to-day governance and coordination of sustainability strategy and targets, which are embedded into the corporate strategy. It monitors the progress of key corporate sustainability KPIs, as well as ensuring transparent reporting and validation of the sustainability progress.

# Definitions, reporting principles and sources

## Carbon footprint

(1) **Emission reduction per vehicle:** Covers all emissions in Volvo Cars GHG protocol except the sub category "Production and distribution of fuel and electricity" within the category "Use of sold products".

(2) **GHG Protocol:** (including the greenhouse gases $CO_2$, $CH_4$, $N_2O$, HFC, PFC and $SF_6$, among others) are calculated based on the guidance of the Green House Gas protocol including emissions within our financial control. The following categories have been excluded; capital goods, fuel and energy related activities, processing of sold products and investments. Due to updated methodologies as well as new input data from an external service providers, previously reported values are adjusted (Company facilities, Purchased electricity, steam, heating and cooling for own use, Purchased goods and services, Waste generated in operations and Retailers) compared to prior communication to ensure accuracy, completeness and comparability.

### *Scope 1*

**Company facilities:** GHG emissions from our global manufacturing plants include the energy used, multiplied with an emission factor for each different energy type. From 2022, including updates of previous years, GHG emissions from our non-manufacturing facilties are based on data collected by Volvo Cars Facility Environmental Sustainability Tool (FEST). Data for non-manufacturing operations is reported for Q4 2021-Q3 2022 and data for manufacturing operations is reported from 1 December 2021 - 30 November 2022. Data gaps are filled with relevant energy use assumptions. (1) if historical data is available for the site with data gap, average of previous reported data is applied and (2) if no historical data is available, the data gap is filled using normalised averages of the facility type. The building scope includes all Volvo cars owned/leased non-manufacturing facilities (R&D, warehouses, offices). The list of buildings to be included in reporting is updated annually. The updated methodology lead to a 2% reduction in baseline emissions compared to annual report 2021.

**Company vehicles:** GHG emissions from company vehicles are related to the fuel consumed by our test cars, estimated using external emission factors from DEFRA (Department for Environment, Food and Rural Affairs) and global procured volume of fuels for test cars. Emissions related to the production and end of life treatment of test cars are reported in Scope 3.

### *Scope 2*

**Purchased electricity, steam, heating and cooling for own use:** Indirect GHG emissions for manufacturing facilities are calculated based on purchased energy and supplier specific emission factors, where such are available. From 2022, including updates of previous years, GHG emissions from our global non-manufacturing facilties are based on data collected by Volvo Cars Facility Environmental Sustainability Tool (FEST) and follows the same methodology as described under Company Facilities in the previous section. The updated methodology lead to a 3% increase in baseline emissions compared to annual report 2021.

### *Scope 3*

**Purchased goods and services:** GHG emissions from purchased materials are derived from material compositions of representative vehicles and $CO_2$ emission factors from Sphera's LCA modelling software Gabi, multiplied with the global manufactured volume. GHG emissions caused by materials and services not directly relating to the car are calculated on a spend-based approach using an extended environmental input-output life cycle assessment model developed by CIRAIG, deemed to have enough accuracy for selected emissions. Emissions from packaging is calculated based on kg materials and relevant emissions factors. In 2022 packaging emissions has been added to previous years which has resulted in an updated baseline.

**Transportation and distribution:** GHG emissions from logistics (01 Dec 2020 - 30 Nov 2021) is calculated by including inbound, outbound and parts supply logistics transports managed and paid for by Volvo Cars. Emission factors derived from NTM (Network for Transport Measures).

**Waste generated in operations:** GHG emissions from waste generated in our operations are calculated by categorising waste volumes into types and treatment methods. In 2022 waste treatment process emissions factors has been updated and are based on GaBi and waste from manufacturing and non-manufacturing facilities are included. Waste for non-manufacturing operations is reported for Q4 2021-Q3 2022 and for manufacturing operations it is reported from 1 December 2021 - 30 November 2022.

**Business travel:** GHG emissions from air travel are calculated by using the flight distance reported by our travel agency, as well as emissions factors from NTM. Radiative forcing factor is applied for air travel. Emissions caused by other modes of business travel are calculated on a spend-based approach, using relevant emissions factors from public sources.

**Employee commuting:** GHG emissions from employee commuting are based on global commuting distances and patterns for the reported years, based on a simulation conducted with 31,000 employees with travel choice taken into account for the different regions. 2022 employee commuting emissions are based on prepandemic emission levels from year 2019.

**Leased assets upstream:** Emissions from leased assets upstream includes emissions from the manufacturing plant in Luqiao, China, owned by Geely between year 2019 and 2021. Energy used is multiplied with an emission factor per energy type. Volvo Cars' share of Luqiao emissions is calculated based on the total number of produced Volvo cars in Luqiao compared to the total number of cars produced in Luqiao. Emissions from waste generated by the production of Volvo cars is included.

**Use of sold products:** Total GHG emissions from use of manufactured products are calculated by applying the $CO_2$ tailpipe emissions per km, (see definitions for tailpipe emissions), on our global manufactured volume and an average mileage of 200,000 km per car.

The emissions from production and distribution of electricity is based on a global energy mix from 2018. Production and distribution of fuels is based on an internal assessment of upstream $CO_2$ emissions from diesel and petrol.

Average GHG emissions from use of sold products are based on official data Worldwide Harmonized Light Vehicle Test Procedure (WLTP) of Volvo sold cars in Europe (EU28), applied on car types and the global number of manufactured cars. Volvo Cars product offer is global and EU data is a fair estimate of similar products worldwide. Many markets have car variants that are not tested on WLTP. These variants have been assigned fuel consumption values using a rule-based, automated method.

The accuracy of the calculation method can be influenced by real world factors not covered by the official data such as driving behaviour and different usage of auxiliary loads.

**End of life treatment of sold products:** GHG emissions caused by the end of life treatment of sold products are estimated based on emission factors from the Battery electric C40 Recharge carbon footprint study and our global manufactured volume.

**Leased assets downstream:** Emissions from leased assets downstream is calculated by summarising the Volvo Cars share of emissions reported by leased spare parts warehouses.

**Retailers:** The 2018 baseline calculation of GHG emissions caused by retailers are based on financial data of EMEA Volvo Cars retailers and a detailed analysis of seven selected retail sites. This methodology is updated in the 2022 reporting with data collected from from Volvo Cars Facility Environmental Sustainability Tool (FEST). In FEST a larger set of retailers report on sustainability than the original sample. During 2022, 59% of total retailers reported in FEST.

The retailer emissions are reported with a one year lag. 2018 baseline figures are used for year 2018 until 2021. 2021 data are used for reporting year 2022. Market and regional averages are used to extrapolate emissions to retailers that was not part of the data collection. During the data collection in FEST erranous data for retailers included in the original 2018 reporting was discovered, and the baseline GHG emissions has therefore been updated. The GHG emissions from retailers are based on the GHG protocol and includes the categories company facilties, company vehicles, purchased electricity steam, heating and cooling for own use, purchased goods and services, capital goods, waste generated in operations, business travel and employee commuting. The updated methodology lead to a 13% reduction in baseline emissions compared to annual report 2021.

3 Based on manufactured Volvo Cars vehicles.

### Tailpipe emissions

4 BEV vehicles energy efficiency is based on official data Worldwide Harmonized Light Vehicle Test Procedure (WLTP) of Volvo sold cars in Europe (EU28), applied on car types and the global number of manufactured cars. Many markets have car variants that are not tested on WLTP. These variants have been assigned an electric consumption based on a selected similar WLTP tested variant. This selection process is rule-based and automated to ensure consistency. Volvo Cars product offer is global and EU data is a fair estimate of similar products worldwide. The accuracy of this method can be influenced by real world factors not covered by the official data such as driving behaviour and different usage of auxiliary loads.

5 Tailpipe emissions are based on official data Worldwide Harmonized Light Vehicle Test Procedure (WLTP) of Volvo sold cars in Europe (EU28), applied on car types and the global number of manufactured cars. Many markets have car variants that are not tested on WLTP. These variants have been assigned a fuel consumption based on a selected similar WLTP tested variant. This selection process is rule-based and automated to ensure consistency. Volvo Cars product offer is global and EU data is a fair estimate of similar products worldwide. The accuracy of this method can be influenced by real world factors not covered by the official data such as driving behaviour and different usage of auxiliary loads.

6 Absolute $CO_2$ tailpipe emissions avoided is calculated by multiplying number of sold BEVs with the global average $CO_2$ emissions (WLTP) for all manufactured cars per year, respectively, excluding BEVs. For calculation purposes an assumed average milage of 200,000 km per car has been applied.

### Emissions, other

Verified by the Science-Based Targets initiative (SBTi) - a partnership between CDP, the United Nations Global Compact, World Resources Institute (WRI) and the World Wide Fund for Nature (WWF).

7 Volvo Car Group commits to reduce absolute Scope 1 and 2 GHG emissions 60% by 2030 from a 2019 base year.

Volvo Car Group commits to reduce Scope 3 GHG emissions from Use of sold products 52% per vehicle kilometre by 2030 from a 2019 base year (this includes Production and distribution of fuel and electricity related to use of sold products).

### Energy, Waste and Water

8 KPIs per manufactured cars include sites currently part of our industrial manufacturing structure (including manufacturing of other brands). When manufacturing plants have been added or removed, the baseline number (2018) have been adjusted accordingly. Data is reported from 1 December 2021–30 November 2022.

9 For 2020 and 2021 the data only includes renewable energy.

10 Source for conversion factors: For sites measuring natural gas usage by the volume, conversion to energy usage is done by multiplying with Higher Heating Value (HHV) from natural gas supplier.

Data for manufacturing operations is reported from 1 December 2021–30 November 2022.

11 Data for the year 2019 is based on 1 Dec 2018 to 30 Nov 2019, except the data for Americas that is based on calendar year 2019. 2019 was the first year Volvo Cars started reporting figures for Americas. The Volvo Cars manufacturing plants included in the data for Europe are Volvo Cars Torslanda Plant (Gothenburg, Sweden), Volvo Cars Ghent Plant (Ghent, Belgium), and Volvo Cars Olofström – Body Components (Olofström, Sweden). The Volvo Cars plant included in the data for US is Volvo Cars Charleston Plant (Charleston, South Carolina, USA). The Volvo Cars manufacturing plants included in APAC are Volvo Cars Malaysia – CKD (Kuala Lumpur, Malaysia), Volvo Cars Chengdu Plant (Chengdu, China), Volvo Cars Daqing Plant (Daqing, China) and Volvo Cars Taizhou Plant (Taizhou, China) as of 2022.

12 Direct energy refers to electricity produced and used on site as well as fuels to produce heat. Indirect energy refers to procured electricity, heating or cooling. Energy sold negligible.

13 Including all Volvo Cars owned and leased offices, showrooms, warehouses, and R&D facilities.

14 Scope updated to include Non-manufacturing Operations facilities. The 2021 results have been adjusted accordingly and have resulted in an increse from 3.7 to 4.4.

15 Charleston, Ghent, Olofström.

16 Hällered, R&D Americas, Volvo Cars UK, Volvo Cars Netherlands, Volvo University Americas, Warehouse Lammhult.

17 According to WRI Aqueduct water risk atlas tool.

18 Excluding Olofström and Malaysia. Legal permits on these sites do not require the plants to measure their water discharge, therefore it is considered not to be of environmental significance.

19 During 2022, Volvo Cars has improved the methodology of collecting and analysing sustainability data

for the non-manufacturing buildings. All historical data is therefore updated with the same methodology (energy and green house gas emissions), and new data (energy divided into types, water and waste) are also reported historically. Data for non-manufacturing operations is reported Q4 2021–Q3 2022.
Increased completeness and data quality for non-manufacturing facilities and reporting year 2021, resulting in an increase of 51,000 MWh.

20 Metal scrap from Volvo Cars Olofström – Body Components (Olofström, Sweden) is allocated to the car factories in Europe, APAC resp. US according to production since they deliver to all car plants. The manufacturing plants Volvo Cars Chengdu Plant (Chengdu, China), Volvo Cars Daqing Plant (Daqing, China) and Volvo Cars Taizhou Plant (Taizhou, China) as of 2022 have stamping operation which means that they get more metal scrap than a plant without stamping car factory.

21 Data for manufacturing operations is reported from 1 December 2021–30 November 2022.

### Resource value retention

22 At Volvo Cars, we use the term bio-based materials instead of renewable materials, as renewable materials have high demands on fast renewal of the biomass.

23 This estimate is calculated based on the average weight of a Volvo vehicle placed on the market and recycled content per material group.

24 This is a fleet level estimate based on market average and supplier input.

### Product value retention

25 Volvo on Demand study considering the following methodology: https://www.capgemini.com/se-en/insights/research-library/the-sustainability-impact-of-car-sharing-2021/

26 Calculated from Volvo on Call vehicles approximately 2m vehicles. Can be compared to 11000 km driven on average by a registered car in Sweden 2020 (Sources; Trafikanalys and SCB).

27 Calculated on a subset of Volvo vehicles; a fleet of cars mainly driven by Volvo Cars employees in Sweden which is not fully representative for all Volvo vehicles.

### Biodiversity – Land use and ecological sensitivity

28 In the case of a fully leased building, the total area of the building is used to represent land use (even though area over multiple floors is an over-representation). In the case of partial lease of a building (i.e., leasing one floor in a multi-floor building), the total leased space is used to represent the land use. Rented outdoor land areas are not included due to contractual circumstances.

29 Based on LCA method using ReCiPE. Based on 2021 data. Range reflects the uncertainty of underlaying data with regards to impact from ecotoxicity.

### Inclusion

30 Senior Leadership refers to our STVP population, which is our 372 most senior leaders.

31 Leading position refers to all our positions above a certain grade.

### Wage level

32 Entry level wage is compared to the local labour agreement in Sweden and Belgium, and to the statutory minimum wage in China and US.

33 Calculated ratio between two values: Annual total CEO compensation in 2022 and Median annual Swedish Volvo employee total compensation in 2022.

34 Shift in CEO during the year of 2022, for further information please see the remuneration report.

### Training indicators

35 On-the-job training is not included in this metric

36 As part of our people processes it is mandatory for all managers to have a continuous performance and career development dialogue with their employees. All managers receive both training and support to ensure this takes place by all managers throughout the organisation.

### Number of employees

37 The main employment form within Volvo Cars is permanent employment, but depending on the need and duration of assignment temporary solutions will be used such as consultants, agency and temporary employment contracts. Key positions should always be employed on a permanent basis. Depending on national labour regulations and market situation the approach may vary in Volvo Cars' different locations.

### Breakdown by gender

38 Only appointed Board Members are included in these figures. In addition to these, there are 3 representatives from the unions on the Board of Directors. However, Volvo Cars does not have any influence of their appointment.

39 The percentage shows the amount of open white collar positions filled by internal transfers. It covers only white collar employees YTD 2022.

### Accidents and sick leave

40 Includes all employees, supervised contractors and independent contractors at our sites. Independent contractors are defined as contractors involved in the construction/reconstruction of Volvo Cars' factories. Fatalities among contractors are only reported for projects in which Volvo Cars is the developer.

41 Work related illness – with sick leave, medically treated- hospital care, other medical care, occupational health care, actual sick days 15 days and more.

### Pay Equality

42 Average annualised base salary for permanent employees in our four most significant sites.

### Compliance and Ethics

43 A decision was made to launch the yearly C&E course at the start of the year instead of at the end of each year. The course launched in 2020 had it's deadline in 2021 and is therefore accounted for in 2021.

### Green Financing Framework

44 For definition of Outstanding Debt, see Note 20 – Financial Instruments and Financial Risks. For more information about the Green Financing Framework, please see https://investors.volvocars.com/en/debt-information/green-financing.

# Auditor's Limited Assurance Report on Volvo Cars' Sustainability Report and statement regarding the Statutory Sustainability Report

**To Volvo Car AB (publ.), corporate identity number 556810–8988**

**Introduction**

We have been engaged by the Board of Directors and the Executive Management of Volvo Car AB (publ.) ("Volvo Cars") to undertake a limited assurance engagement of the Volvo Cars Sustainability Report for the year 2022. The Company has defined the scope of the Sustainability Report in connection to the table of content in the Annual and Sustainability Report on page 2 and the Statutory Sustainability Report on page 51.

**Responsibilities of the Board of Directors and the Executive Management**

The Board of Directors and the Executive Management are responsible for the preparation of the Sustainability Report including the Statutory Sustainability Report in accordance with the applicable criteria and the Annual Accounts Act respectively. The criteria are defined on page 193 in the Sustainability Report, and are part of the Sustainability Reporting Guidelines published by GRI (Global Reporting Initiative), which are applicable to the Sustainability Report, as well as the accounting and calculation principles that the Company has developed. This responsibility also includes the internal control relevant to the preparation of a Sustainability Report that is free from material misstatements, whether due to fraud or error.

**Responsibilities of the auditor**

Our responsibility is to express a conclusion on the Sustainability Report based on the limited assurance procedures we have performed and to express an opinion regarding the Statutory Sustainability Report. Our engagement is limited to historical information presented and does therefore not cover future-oriented information.

We conducted our limited assurance engagement in accordance with ISAE 3000 (revised) Assurance Engagements Other than Audits or Reviews of Historical Financial Information. A limited assurance engagement consists of making inquiries, primarily of persons responsible for the preparation of the Sustainability Report, and applying analytical and other limited assurance procedures. Our examination regarding the Statutory Sustainability Report has been conducted in accordance with FAR's accounting standard RevR 12 The auditor's opinion regarding the Statutory Sustainability Report. A limited assurance engagement and an examination according to RevR 12 is different and substantially less in scope than an audit conducted in accordance with International Standards on Auditing and generally accepted auditing standards in Sweden.

The firm applies International Standard on Quality Management 1, which requires the firm to design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements. We are independent of Volvo Cars in accordance with professional ethics for accountants in Sweden and have otherwise fulfilled our ethical responsibilities in accordance with these requirements.

The limited assurance procedures performed and the examination according to RevR 12 do not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. The conclusion based on a limited assurance engagement and an examination according to RevR 12 does not provide the same level of assurance as a conclusion based on an audit. Our procedures are based on the criteria defined by the Board of Directors and the Executive Management as described above. We consider these criteria suitable for the preparation of the Sustainability Report.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion below.

**Conclusion**

Based on the limited assurance procedures we have performed, nothing has come to our attention that causes us to believe that the Sustainability Report, is not prepared, in all material respects, in accordance with the criteria defined by the Board of Directors and Executive Management.

A Statutory Sustainability Report has been prepared.

Göteborg 8 March 2023
Deloitte AB

Jan Nilsson
Authorized Public Accountant

Lennart Nordqvist
Expert Member of FAR

This is a translation of the Swedish language original. In the event of any differences between this translation and the Swedish language original, the latter shall prevail.

# Auditor's Limited Assurance Report on Volvo Cars' Green Financing Report

**To Volvo Car AB (publ.), corporate identity number 556810–8988**

**Introduction**

We have been engaged by Volvo Car AB (publ.) ("Volvo Cars") to undertake a limited assurance engagement of the Green Financing Report ("Reporting") for the year 2022 set out on pages 189 and 190 in the Annual and Sustainability Report.

**Responsibilities of Management**

Volvo Cars Management is responsible for the preparation of the Reporting in accordance with the applicable criteria, as explained in the Volvo Cars Green Financing Framework (available at https://investors.volvocars.com/en/debt-information/green-financing) as well as the accounting and calculation principles that the Company has developed. This responsibility also includes the internal control relevant to the preparation of the Reporting that is free from material misstatements, whether due to fraud or error.

**Responsibilities of the auditor**

Our responsibility is to express a conclusion on the Reporting based on the limited assurance procedures we have performed. Our engagement is limited to historical information presented and does therefore not cover future-oriented information.

We conducted our limited assurance engagement in accordance with ISAE 3000 (revised) Assurance Engagements Other than Audits or Reviews of Historical Financial Information. A limited assurance engagement consists of making inquiries, primarily of persons responsible for the preparation of the Reporting, and applying analytical and other limited assurance procedures. The procedures performed in a limited assurance engagement vary in nature from, and are less in extent than for, a reasonable assurance engagement conducted in accordance with International Standards on Auditing and other generally accepted auditing standards in Sweden.

The firm applies International Standard on Quality Management 1, which requires the firm to design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements. We are independent of Volvo Cars in accordance with professional ethics for accountants in Sweden and have otherwise fulfilled our ethical responsibilities in accordance with these requirements.

The procedures performed consequently do not enable us to obtain assurance that we would become aware of all significant matters that might be identified in a reasonable assurance engagement.

Accordingly, the conclusion of the procedures performed do not express a reasonable assurance conclusion.

Our procedures are based on the criteria defined by Volvo Cars Management as described above. We consider these criteria suitable for the preparation of the Reporting.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion below.

**Conclusion**

Based on the limited assurance procedures we have performed, nothing has come to our attention that causes us to believe that the Reporting for the year 2022, is not prepared, in all material respects, in accordance with the applicable criteria, as explained in the Volvo Cars Green Financing Framework.

Göteborg 8 March 2023
Deloitte AB

Jan Nilsson
Authorized Public Accountant

Lennart Nordqvist
Expert Member of FAR

This is a translation of the Swedish language original. In the event of any differences between this translation and the Swedish language original, the latter shall prevail.

# The Share

2022 was a turbulent year, with most of the world's leading stock markets having experienced volatile development. The Volvo Cars' share is listed on Nasdaq Stockholm, where it trades with the ticker VOLCAR. Basic earnings per share in 2022 was 5.23 SEK.

**Share performance and trading volume**

Based on the closing share price on 30 December 2022, SEK 47.38, the Group's market capitalisation was 141,170 million SEK. The share price decreased by 43.0 per cent during 2022, while the broad index (OMXSPI) decreased 25.2 per cent. The highest closing price quoted was SEK 91.78 on 13 January and the lowest closing price quoted was SEK 44.0 on 27 October.

A total of approximately 2.2 billion Volvo Car AB's shares were traded on all marketplaces with average daily trading volume of 8.6 million shares. Trading on Nasdaq Stockholm accounted for 38.7 per cent of total trading volume. The average turnover rate for Volvo Car Group's shares in 2022 was 0.3 per cent compared with 0.6 per cent for Large Cap Stockholm.

**Dividend**

Dividend pay-out will be assessed from year to year based on Volvo Car Group's net income, financial position and investments needs. Volvo Cars continues to focus on delivering its fastest transformer and growth strategy. As visibility on the transformation increases in the medium-term, the ambition is to increase dividend pay-outs towards historical levels and industry averages.

The Board of Directors proposes to the Annual General Meeting 2023 that no dividend should be paid out. Volvo Cars will focus its resources on delivering transformation and profitable growth strategy.

**The share**

The number of Volvo Cars shares amounts to 2,979,524,179. Each share has a quota value of 0.02 SEK and the share capital amounts to SEK 60,947,709. Volvo Cars share capital comprises one series of B-shares, with each share carrying equal voting rights and equal rights to a dividend. The most recent occasion when new shares were issued was in conjunction with the IPO in October 2021.

**Ownership structure**

82.0 per cent of the shares is owned by principal owner Geely Holding. No other shareholder owns – directly or indirectly – more than 10 per cent of the shares in Volvo Cars. Foreign ownership excluding Geely Holding at year-end corresponded to 4.6 per cent of the share capital. The largest foreign ownership excluding Geely Holding is in the United States, Finland, and Denmark. Of Swedish ownership, institutions accounted for 85.2 per cent.

**The Employee Share Matching Programme (ESMP)**

Volvo Cars wants to put its employees in the driver's seat of its transformation. Through our Employee Share Matching Programme (ESMP), Volvo Cars welcome employees to become an owner of the company by making a private investment to buy Volvo Cars Shares. If employees hold onto the shares for two years and are still employed by the company, the company will double the initial number of shares up to a maximum amount of 10,000 SEK value at purchase and match it with the same number of shares purchased.

**Shareholder communication and financial calendar 2023**

Information for the capital market and other interested parties is provided on https://investors.volvocars.com. On the website, it is possible to access financial reports, Annual and Sustainability reports, past events recordings and sales and regulatory press releases. Printed copies of Annual and Sustainability reports are only distributed to shareholders upon request.

Dialogue with the shareholders and the market is important for Volvo Cars. Apart from Annual General Meeting, Volvo Cars maintained active discussions through events, livestream with Q&A in conjunction with the publication of interim reports, investor meetings and visits, meetings with retail shareholders' associations, as well as roadshows. Volvo Cars hosted its first Capital Markets Day in November 2022 in conjunction with the launch of Volvo EX90.

THE SHARE

**VOLVO CARS SHARE AS OF YEAR-END 2022**

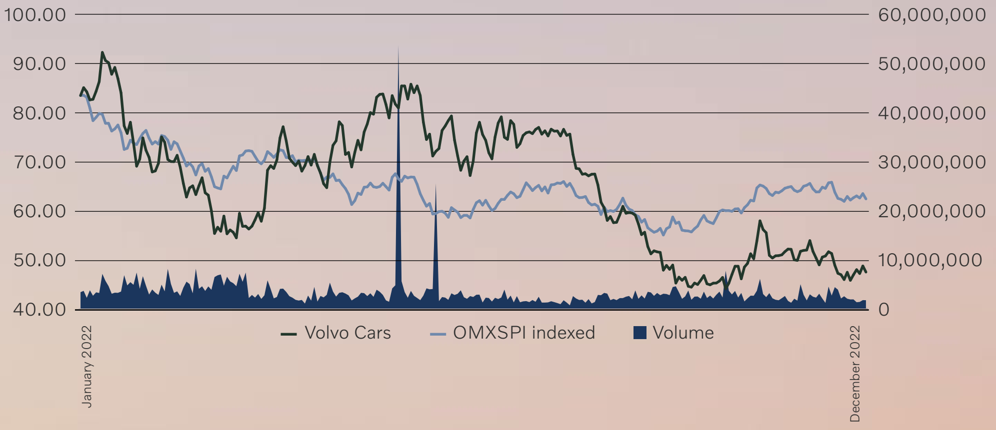
Symbol: VOLCAR
Market cap: SEK 141.2 billion
Number of known shareholders: 185,503
Basic earnings per share: 5.23 SEK

**Financial Calendar**
3 April 2023: Annual General Meeting, Gothenburg, Sweden
27 April 2023: Q1 2023 report
20 July 2023: Q2 2023 report
26 October 2023: Q3 2023 report
7 February 2024: Q4 and Full Year report 2023

**Annual General Meeting 03 April 2023**
The shareholders of Volvo Car AB (publ.), Reg. No. 556810-8988, ("Volvo Cars") are invited to participate in the Annual General Meeting (the "AGM") to be held on 3 April 2023, at 13.00 CEST at Volvohallen, Gunnar Engellaus väg 2, SE-418 78 Gothenburg, Sweden.

**More information:**
https://investors.volvocars.com/en/agm-2023

## VOLCAR B – SHAREPRICE DEVELOPMENT



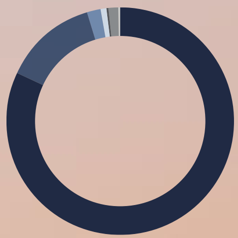

## TEN LARGEST SHAREHOLDERS 31 DECEMBER 2022

| Owners | Number of shares | Capital | Votes |
|---|---|---|---|
| Geely Holding | 2,443,396,227 | 82.0% | 82.0% |
| AMF Pension & Funds | 112,960,479 | 3.8% | 3.8% |
| Folksam | 59,380,863 | 2.0% | 2.0% |
| Alecta Pension Insurance | 28,300,000 | 0.9% | 0.9% |
| BlackRock | 21,847,954 | 0.7% | 0.7% |
| Handelsbanken Funds | 19,198,768 | 0.6% | 0.6% |
| Vanguard | 19,058,092 | 0.6% | 0.6% |
| Fourth Swedish National Pension Fund | 17,882,538 | 0.6% | 0.6% |
| Third Swedish National Pension Fund | 17,089,000 | 0.6% | 0.6% |
| SEB Funds | 15,497,147 | 0.5% | 0.5% |
| **Ten largest owners, total** | **2,754,611,068** | **92.5%** | **92.5%** |
| Others | 224,913,111 | 7.5% | 7.5% |
| **Total** | **2,979,524,179** | **100%** | **100%** |

## BREAKDOWN BY SIZE 31 DECEMBER 2022

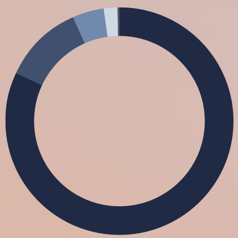
| Size class | Number of known shareholders | Share of known shareholders | Number of shares | Capital | Votes |
|---|---|---|---|---|---|
| 1–500 | 164,664 | 88.8% | 20,485,963 | 0.7% | 0.7% |
| 501–1,000 | 12,214 | 6.6% | 9,233,685 | 0.3% | 0.3% |
| 1,001–5,000 | 7,326 | 3.9% | 14,991,199 | 0.5% | 0.5% |
| 5,001–10,000 | 719 | 0.4% | 5,202,312 | 0.2% | 0.2% |
| 10,001–20,000 | 280 | 0.2% | 4,046,002 | 0.1% | 0.1% |
| 20,001– | 300 | 0.2% | 2,920,155,221 | 98.0% | 98.0% |
| Anonymous ownership | 0 | 0.0% | 5,409,797 | 0.2% | 0.2% |
| **Total** | **185,503** | **100%** | **2,979,524,179** | **100%** | **100%** |

## OWNERSHIP BY COUNTRY



China 82.0%
Sweden 13.4%
United States 2.0%
Finland 0.6%
Denmark 0.5%
Other countries 1.2%
Unknown country 0.2%

## OWNERSHIP BY CATEGORIES



Other 82.3%
Swedish institutional owners 11.4%
Foreign institutional owners 4.2%
Swedish private individuals 2.0%
Unknown other type 0.2%

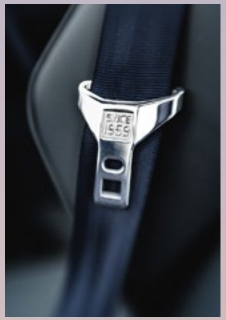
# Our Heritage – An exciting journey and decades of innovations

Volvo Car Group was founded upon the concepts of quality and safety by Assar Gabrielsson and Gustaf Larson in Gothenburg, Sweden, and in 1927 the first Volvo car was released. Ever since our founding in 1927, we have been designing cars that put people first and we have become a truly global company renown for safety selling approximately 615,000 cars all over the world.

## 1927


Assar Gabrielsson and Gustaf Larson launch the first Volvo car in Gothenburg, Sweden. The car was an open tourer with a four-cylinder engine.

## ’40s–’60s



**1944** - “The little Volvo” (PV444), was a car that turned Volvo into an international car company was unveiled in Stockholm.

**1953** - The Volvo Duett was launched as “two cars in one” – for both work and leisure.

**1955** - The first PV 444 was unloaded at a port in Long Beach, California. Two years later Volvo Car had become the second-biggest import brand in California.

**1959** - Volvo engineer Nils Bohlin invents the three-point safety belt.

**1964** - Our plant in Gothenburg was inaugurated and is still our largest production facility.

## ’70s

**1972** - Environment was added to our core values, Safety and Quality. Volvo invented the rearward-facing child safety seat.

**1976** - Volvo released the Lambda Sond, the world’s-first catalytic exhaust control system that reduces harmful emissions. Volvo was officially chosen as the safety standard benchmark for all new cars in the USA.

**1977–1978** - Volvo 240, was awarded the American National Environmental Industry Award and named the cleanest car by the California Air Resources Board.

**1978** - Volvo Car Group was spun out as a separate entity from AB Volvo.

## ’80s

The sales of Volvo 740 and 760 was a great success.

## ’90s

**1991** - Volvo presented Volvo 850 – the largest product investment since Volvo introduced the Side Impact Protection System.

**1998** - Volvo developed the Inflatable Curtain.

**1999** - Volvo Cars was acquired by Ford Motor Company.

## ’00s

A new generation of environmentally adapted diesel engines was launched - **2001**

Volvo XC90 was launched and became an instant success all over the world - **2002**

Volvo ReCharge Concept Car, a plug-in hybrid was first displayed - **2007**

The City Safety, a low-speed auto brake solution that automatically is braking the car in the event of imminent risk of collision was introduced. The popular DRIVe series encompassed seven models classed as green cars - **2008**

## ’10s

**2010** Geely Holding acquired Volvo Car from Ford.

**2011** Volvo Cars appointed top car maker in Sustainable Brands.

**2013** The four-cylinder powertrains featuring a lightweight base powertrain replaced its fourteen-engine powertrain family predecessor. We established a manufacturing joint venture with Geely Holding and built two manufacturing plants in Chengdu and Daqing, China. Volvo C30 awarded “Green Car of the Year” in China.

**2014–2015** The in-house development of the Scalable Product Architecture (SPA) was completed and the new generation XC90, the first car model built on the SPA, started a new chapter in our history.

**2017** We announced our electrification strategy.

## 2017

The Volvo XC40, the first model based on our compact modular vehicle architecture (CMA) was introduced. It set our new standard in design, connectivity and safety.

## 2018

Engine production facility in Skövde, Sweden becomes a climate neutral (in terms of $CO_2$ emissions) production facility. A solar energy installation was unveiled at the Ghent factory.

The production facility in Charleston, South Carolina, was opened establishing a global manufacturing footprint.

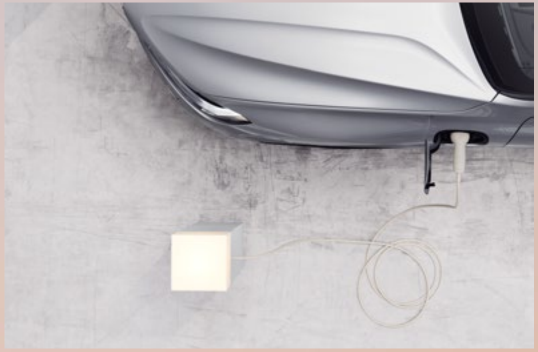
Subscription based Care by Volvo and Volvo Car Mobility was announced.

We partnered with NVIDIA for the development of a highly capable, AI-based, central computer for the next generation of Volvo cars.

## 2019

Our long-term sustainability ambitions to become a climate neutral company 2040 was announced.

We launched XC40 Recharge P8, our first fully electric SUV. Our first model equipped with an infotainment system powered by Android.



## 2020

Production of XC40 Recharge starts in Ghent.

The climate plan, under which Volvo Cars strives to become a climate neutral company by 2040, was scientifically verified by the Science Based Targets initiative (SBTi), a collaboration that provides companies with a clear pathway to support the Paris Agreement.

## 2021

We announced that Volvo Car will be fully electric by 2030.

Started production of second fully electric model C40 recharge.

On 29 October Volvo Cars became a listed company on the Nasdaq Stockholm stock exchange.


## 2022

In collaboration with Northvolt, we announced the establishment of a new battery plant in Gothenburg, Sweden as part of a SEK 30 bn investment in battery research & development and manufacturing.

Announced that we will establish an electric car manufacturing plant in Slovakia to match our growth ambitions.

We become a founding member of Accelerating to Zero Coalition, calling for more climate action from governments.

Launched the new Volvo EX90, which represents the start of a new era for our company in which we set a decisive course for a fully electric future.

Divested its 33 percent holding in Aurobay to Geely Holding, aligned with the electrification ambitions.

Took full ownership of the autonomous driving (AD) and advanced driver-assistance system (ADAS) software company Zenseact.

## DEFINITIONS

**Volvo Car Group / Volvo Cars**
Volvo Car AB (publ.) together with its wholly-owned subsidiary Volvo Car Corporation and its subsidiaries are jointly referred to as "Volvo Car Group" or "Volvo Cars".

Volvo Car AB (publ.), with its registered office in Gothenburg, Sweden, is a publicly listed company on the Nasdaq Stockholm Stock Exchange. The largest owner, holding 82 per cent of shares and capital, is Geely Sweden Holdings AB, owned by Shanghai Geely Zhaoyuan International Investment Co., Ltd., registered in Shanghai, China, and ultimately owned by Zhejiang Geely Holding Group Ltd., registered in Hangzhou, China. Volvo Car AB (publ.) holds shares in its subsidiary Volvo Car Corporation and provides the Group with certain financing solutions. Volvo Car AB (publ.), indirectly through Volvo Car Corporation and its subsidiaries, operates in the automotive industry with business relating to design, development, manufacturing, marketing and sale of cars and thereto related services.

**Associated companies**
Associated companies are companies in which Volvo Car Group has a significant but not controlling influence, which generally is when Volvo Car Group holds between 20% and 50% of the shares.

**Joint venture companies (JVs)**
Joint ventures refer to companies in which Volvo Car Group, through contractual cooperation together with one or more parties, has joint control over the operational and financial management and has rights to the net assets of the arrangement.

**Retail sales**
Retail sales refer to sales to end customers (including a portion of cars used as customer loaner and demo cars) and is a relevant measure of the demand for Volvo Cars from an end customer point of view.

**Wholesales**
Wholesales refer to new car sales to dealers and other customers including rentals.

**Europe**
Europe is defined as EU+EFTA+UK.

**Passenger cars**
Passenger cars are vehicles with at least four wheels, used for the transport of passengers, and comprising no more than eight seats in addition to the driver's seat.

**Traditional premium segment**
Traditional premium segment is the premium market brands such as Volvo Cars, Audi, BMW, Lexus, Mercedes, Tesla and so on.

**Battery Electric Vehicles (BEV)**
BEV cars include all vehicles which are 100% fully electrified cars.

**Non Battery Electric Vehicles (Non-BEV)**
Non-BEV cars include all vehicles which are not 100% fully electrified cars (BEV). For Volvo Cars, it includes plug-in hybrid (PHEV), mild hybrid (MHEV) and internal combustion engine cars (ICE).

**Electrified cars**
Electrified cars include 100% fully electric cars, the same as the Battery Electric Vehicles (BEV), and Plug-in hybrids (PHEV), in both petrol and diesel with cord for charging.

**Recharge cars / Recharge line-up**
"Recharge" is the overarching name for all Volvo chargeable car models including plug-in hybrids (PHEV) and fully electric vehicles (BEV).

**ICE**
Internal combustion engine, including all powertrain types except plug-in hybrids (PHEV) and fully electric vehicles (BEV).

**Agency personnel**
Agency personnel is referred to as specific competence that is sourced externally and assigned to meet fluctuating business resource needs.

**Contract manufacturing**
A business model in which a third-party company is contracted for the production of goods or components over a specified contract period

**Abbreviations**
**HEV** – Hybrid electric vehicle
**BEV** – Battery Electric Vehicle
**ICE** – Internal combustion engines
**JV** – Joint venture
**NEV** – New energy vehicle
**OEM** – Original equipment manufacturer
**OTA** – Over-the-air
**PHEV** – Plug-in hybrid electric vehicle
**RDE** – Real driving emissions

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**Language**
In the event of inconsistency or discrepancy between the English and the Swedish version of this publication, the Swedish version shall prevail.

**Totals and roundings**
Totals quoted in tables and statements may not always be the exact sum of the individual items because of rounding differences. The aim is that each line item should correspond to its source, and rounding differences may therefore arise.

**Forward looking statements**
This report contains statements concerning, among other things, Volvo Car Group's financial condition and results of operations that are forward-looking in nature. Such statements are not historical facts but, rather, represent Volvo Car Group's future expectations. Volvo Car Group believes that the expectations reflected in these forward-looking statements are based on reasonable assumptions. However, forward-looking statements involve inherent risks and uncertainties, and a number of important factors could cause actual results or outcomes to differ materially from those expressed in any forward-looking statement. Such important factors include but may not be limited to: Volvo Car Group's market position, growth in the automotive industry, and the effects of competition and other economic, business, competitive and/or regulatory factors affecting the business of Volvo Car Group, its associated companies and joint ventures, and the automotive industry in general. Forward-looking statements speak only as of the date they were made and, other than as required by applicable law, Volvo Car Group undertakes no obligation to update any of them in light of new information or future events.