

Aurobay

Powertrain Engineering Sweden AB Corporate identity number 556830-5964

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38 42 46 50	The annual report, including financial statements and the sustainability report, of Powertrain Engineering Sweden AB (corporate identity number 556830-5964), submitted by the Board of Directors and the Chief Executive Officer for the period January 1–December 31, 2022. Powertrain Engineering Sweden AB's financial statements
61	are presented on pages 60-80.
01	In this report, when using the brand name Aurobay to
67	decribe acitivites in 2022 we are referring to Powertrain
~~	Engineering Sweden AB or Powertrain Engineering
80	Sweden AB and our maufacturing site in Zhangjiakou.

### Aurobay at a glance

Powertrain Engineering Sweden AB is a global supplier of complete powertrains, including next-generation internal combustion engines and hybrid solutions.

Headquartered in Gothenburg, Sweden, the company comprises the Skövde powertrain plant and central functions, combining:

- Major manufacturing, R&D and digital capabilities
- More than 100 years of continuous innovation in powertrain technology and electrification
- A highly-skilled workforce in Sweden of more than 1850 people including almost 500 specializing in R&D and manufacturing engineering.



#### OVERVIEW / 2022 HIGHLIGHTS

# 2022 highlights



Zhangjiakou power plant officially joins Aurobay

On February 1, Volvo Cars transfers its ICE assets in China to Zhejiang Aurobay Powertrain.



Leadership and Trainee programs are launched

Aurobay launches its first leadership and trainee programs. In March and September, 32 leaders started the leadership program, while in September, 32 trainees started our trainee programs in Sweden and China.



10 years of Zhangjiakou plant

We celebrate the tenth anniversary of our plant in Zhangjiakou.



### Aurobay X



IATF certification



New business

We set up our incubator Aurobay X to accelerate innovation.

Aurobay Skövde receives IATF certification, with Zhangjiakou becoming certified shortly after the end of the year.

We win various pieces of business from OEMs as a Tier 1 supplier.



Project: Zero emission engine



Aurobay IT platform



Aurobay wins Transform Awards Nordics

In October, Aurobay showcases its progress towards a zero-emission combustion engine at the Aachen Colloquium of Sustainable Mobility. By the end of the year, all staff in Sweden had replaced their Volvo Cars' email addresses and devices with Aurobay equivalents.

In September, Aurobay is named winners of the 2022 Transform Awards Nordics in the 'Best Visual Identity' category.

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### Trade bodies



Ownership changes



New powertrain company announced

Aurobay announces that it is becoming part of a new global company formed by Renault and Geely to produce nextgeneration, low-emission powertrains.

We join FordonsKomponentGruppen in September and CLEPA after the end of the year.

Volvo Cars transfers its 33% holding in Zhejiang Aurobay Powertrain to Geely Holding.



# Managing Director comment

2022 was our second year of operations, as we started to show the world what Aurobay stands for. Next-generation hybrid solutions are our future, and we believe they will play a significant role in helping the world get to net zero, alongside electrification. Hybrid solutions have a growing share in major automotive markets around the world. In 2022, we produced 544 000 hybrid powertrains and 231 000 electric motors, despite the global semi-conductor shortage and resulting production stoppages.

#### Pioneering in sustainable business

Following the launch of our LP Miller engine in 2021, in Q4 we signed an agreement with a customer to develop the MP Miller engine. This offers car drivers high performance in a hybrid solution, with better fuel efficiency and lower cost than previous engine generations.

Also in Q4, Aurobay took its first steps in the new circular economy market, with the signing of a contract to remanufacture engines, where we will give about half of the used components a second life.

#### **Becoming Aurobay**

During the year, we reached several milestones in our Becoming Aurobay program. Volvo Cars' former engine plant in Zhangjiakou was transferred under the Aurobay umbrella and Powertrain Engineering Sweden is now 100% owned by Geely Holding.

Aurobay joined FordonsKomponentGruppen (FKG), the Scandinavian trade body for suppliers to the automotive industry. As we expand our business beyond Volvo Cars, joining FKG is a great opportunity to help build partnerships and shape the agenda for automotive suppliers in Scandinavia and Europe.

Both Skövde and Zhangjiakou plants achieved IATF certification and we launched Aurobay's sustainability strategy.

Also during the year, we migrated onto an Aurobay IT platform, which will enable us to build digital solutions that are fit for the future. With our first Culture Awards, we explored what our values of caring, collaboration and creating excellence mean in practice. We also ran two leadership training courses and launched our pilot trainee program, with 13 participants in Digital, R&D, Production and Manufacturing Engineering.

#### **Driving innovation**

Innovation will be a critical success factor as we work towards our vision of re-imagining motion for a brighter tomorrow. During 2022, we established our incubator Aurobay X to drive radical innovation both in-house and in partnership.

We showcased our progress on our zero-emission engine project. At Aurobay, we take a lifecycle approach to emissions. While we haven't achieved our zero-emission ambition yet, we have designed an engine with a manufacturing and materials CO<sub>2</sub> footprint that's 80% lower than previous engines, which is ready to be industrialized today. Our prototype is powered by a renewable fuel, made from waste, with a lifecycle greenhouse gas reduction of 65% compared to conventional fossil fuels. Over its lifecycle, it's likely to impact global warming only as much as a battery electric vehicle powered by wind.

During the year, we also began our journey of filing patents as Aurobay. The first patent is for a technology for pre-heating engine pistons. This, together with other Aurobay technologies, will almost eliminate health-harming emissions, like NOx and particulates, from cold starts.

#### Where next for Aurobay?

At Aurobay, we have always believed that many different technologies are needed on the road to net zero. By 2040, according to industry estimates, there will still be some 900 million hybrid and ICE engines on the world's roads. However, most automakers are concentrating on electric powertrains and will lose focus on ICE and hybrid systems. Innovative technologies are needed to minimize the lifecycle footprint of ICE and hybrid vehicles.

At the end of 2022, Geely Holding, together with Geely Auto, took the exciting step of signing an agreement with Renault Group with the intention to form a global leader in the development, manufacturing and supply of next-generation, low-emission hybrid powertrains and internal combustion engines.

During Q1 of 2023, it was announced that Saudi Aram-Co intends to take a minority stake in this new business, bringing investment and concept ideas, particularly in the area of eFuels. This is a great step: Aurobay is already part of the eFuel alliance, and we believe eFuels will have a fast and significant impact on reducing global warming, both for new cars and for the legacy fleet.

Assuming these plans come to fruition, we will become part of a company with 17 plants and 5 R&D centers in Asia, the Americas and Europe. The new company will produce around 5 million powertrains and transmissions a year and push the boundaries of innovation on the road to net zero. Its scale – and the recognition that it will bring – will put our ambitions even more firmly on the map.

We have an exciting future ahead.

#### **Michael Fleiss**

Managing Director, Powertrain Engineering Sweden AB

# We are Aurobay



### Our purpose

### We're on a journey towards net zero

We are in a business that needs to lead the way in fighting climate change. At Aurobay, we are committed to the Paris Agreement and the goal to limit global warming to well below 2°, preferably 1.5° Celsius.

It is our job to contribute to a more resilient and sustainable mobility where many different technologies co-exist to power a multitude of vehicles and business models.

It's not a race between technologies, and we welcome everyone to join us on our journey to net zero.

### Trends



### Automotive is focusing on electrification

In automotive, many regions are moving toward electrification, especially the EU, which has proposed a ban on ICE with fossil fuels from 2035. The market share of electric vehicles is also growing in the U.S. and China, although less quickly than in Europe. In the long term, vehicles powered by petrol and diesel will be phased out in many markets.

### Hybrid and ICE expected to remain majority of powertrains worldwide<sup>1</sup>

Different regions will move towards net zero at a different pace, and even in Europe, consumer demand is still significant for hybrid and traditional engines<sup>2</sup>. Of the 900 million hybrid and ICE vehicles expected to be on the roads by 2040, an estimated 75% are not yet built<sup>3</sup>. Innovation in combustion technology is urgently required to drive down the emissions of the future vehicle fleet.

### The automotive industry is investing in alternative fuels



<sup>1</sup> Electric vehicle outlook <sup>2</sup> ww 2022, BloombergNEF hyb

<sup>2</sup> www.acea.auto, 1 February 2023; Fuel types of new cars: battery electric 12.1%, hybrid 22.6% and petrol 36.4% market share full-year 2022

<sup>3</sup> Bureau of transportation statistics (2022)

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### Combustion technology is increasingly regulated

New regulations such as Euro 7 and China 7 will impose stringent demands on OEMs, and require substantial investment and innovation. Electrification is capital intensive, and many OEMs are struggling to focus sufficiently on both combustion and electrified technologies.

### OEMs are restructuring their businesses

Several OEMs are separating their combustion-powered and electric vehicle divisions. Renault and Geely are planning to consolidate their ICE businesses to increase their scale, take advantage of cost and operational synergies and drive innovation.

### Driving towards net zero - beyond automotive

Soon, companies in every sector that power motion will be on the hunt for sustainable and practical ways to power their machines.





# Our strategy

Aurobay's mission is to develop and produce world-class powertrain solutions for a global market. We will continue to create value for customers by producing high-efficiency, low-emission engines, and providing world-class services. But we will also pursue our vision to re-imagine motion, pioneering new technologies and solutions that meet the mobility challenges of the future.

### It is not a race between different solutions. It is a joint effort towards net zero.

The world is in a critical period of transition. As the climate crisis deepens, the path to net zero must be accelerated. Rapid changes in technology, consumer demands and behaviours are driving a revolution in automation, customer focus and connectivity. These are among the greatest challenges – and opportunities – of our time. But the future of mobility is no one-way street. Electrification is part of the answer, but urban and rural areas as well as different regions with different societal demands, economies and technologies will need complementing solutions to help them on the journey. And different technologies and fuels will power different types of usage and vehicles. We are here to accelerate the global transition of the mobility industry to carbon neutral. We believe many solutions are needed for the world to reach net zero.



### More than electrification

Aurobay supports the movement towards electrification, and we have committed to have a carbon neutral value chain by 2040. However, the electric transformation will not be immediate, and a range of complementary technologies will be needed on the road to net zero. As well as hybrid engines, we are developing range extenders to support battery electric vehicles (BEV), which can run on eFuels, and we are innovating in electrified powertrains.

#### **Reducing our impact**

To reduce the future carbon footprint of the vehicle fleet is a key priority for Aurobay. We are pushing the sustainability performance of hybrid combustion engines further and faster. Our focus is on the complete lifecycle. We are working to reduce our engines' environmental impact across the whole value chain, from production through tailpipe emissions to end-of-life.

#### eFuel next

Aurobay is part of the eFuels alliance. We believe eFuels will have an important role for future heavy-duty, marine and aviation transport where it will be difficult to cover all energy needs with electric engines. With our partners, owners and shareholders, we are investing in our technologies to ensure they can all be used with eFuels, and we have committed to spend the majority of our advanced engineering budget on zero-emission technologies. During 2022, we demonstrated our zero-emission engine project, which is powered by biofuel made from waste. It has an 80% lower environmental impact from material and production than previous engines, and would impact global  $CO_2$  emissions only as much as a BEV running on wind energy.

#### Compliant with upcoming regulations

Aurobay fully supports tougher regulations as they drive innovation and reduce the environmental impact of combustion technology. We have already developed a hybrid powertrain that goes beyond compliance with Euro 7, with an innovative exhaust-after-treatment system that reduces toxic emissions from cold starts almost to zero<sup>4</sup>.

#### **Beyond automotive**

As an innovation leader, Aurobay has been exploring the application of its hybrid and low-emission technologies outside automotive. We are developing a range extender to be used with battery-powered commercial vehicles<sup>5</sup>.

During 2023, Aurobay will become part of a new company, set up by Renault and Geely to become a global leader in the development, manufacturing and supply of next-generation hybrid powertrains and low-emission engines. The new company will have a production capability of over 5 million powertrains per year, with 17 engine plants and 5 R&D centers in Asia, the Americas and Europe. As well as supplying the subsidiaries and affiliates of Renault Group and Geely, it will also offer powertrain technologies to third-party car brands – work which Aurobay has already started.

<sup>4</sup> www.aurobay.com/exhibitions/aachen-2022 <sup>5</sup> www.aurobay.com/exhibitions/vienna-2023

### Our market

We offer a broad range of services and technology solutions adapted to specific customer, industry and regional requirements. Cutting edge know-how and technology that pushes the boundaries and accelerates the journey to net zero.

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Opening up for adjacent industries We will expand our offer to adjacent industries

- for example, marine and off-road vehicles.

We primarily target passenger cars and

commercial vehicles.

### Our capabilities

End-to-end powertrain partnerships

Complete powertrain service, from concept to industrialization and manufacturing.

Contract manufacturing

Production in our low-carbon footprint factory.

Analysis and verification

Validation of the performance, durability and functionality of powertrain designs.

Tailored engineering services

Product development and manufacturing engineering services.

# Innovation at Aurobay

We are a powertrain company in a global industry in transformation. We believe in the importance of finding as many ways as possible to reach net zero emissions. We are committed to doing this across the lifecycle of our current and future products – from cradle to grave, technology agnostic. Curiosity and exploration will be the winning approach in an ever-changing reality. We will constantly increase the share of our turnover directed towards investments into innovation.

Through our cross-functional innovation hub Aurobay X, we are adding radical and disruptive thinking to our strong heritage of innovation across our R&D and Industrial teams. This allows us to look at our products as part of a value chain. Cross-border thinking and strong partnerships with other companies will drive success on this journey. We are proud of our products and believe next-generation hybrid engines if combined with low-carbon fuels will play an important part in the journey to net zero.

Since we were founded in 2021, we've been pushing the boundaries of powertrain innovation further and faster towards a carbon-neutral future, as well as exploring ways to harness digitalization in a connected world. All of our next generation hybrids are compatible with eFuels, biofuels and traditional fuels, and comply with the latest emissions legislation from California, America, Europe and China.



### Project: Chasing Zero

### A powertrain solution with the ambition of zero environmental impact across the complete lifecycle.

Aurobay showcased progress on its zero-emission engine project during 2022. It has a manufacturing and materials footprint that's 80% lower than previous engines. Over its lifecycle, when powered by a renewable fuel available today, it's likely to impact global warning only as much as battery electric vehicle powered by wind<sup>6</sup>. This is conventional technology used in a smart way, which is ready to put into production.

### Product milestones 2022



### 200hp 2.0l Miller engine

### 250hp 2.0l Miller engine

### 4-cylinder hybrid engine with astonishing fuel efficiency.

Aurobay's highly cost-efficient Miller engine powers several mild hybrid vehicles. It was designed in-house to be more fuel efficient than the previous generation. It operates completely without fuel enrichment, doesn't compromise transient response and driveability, all while maintaining its competitive price point.

### Next generation hybrid engine secured for future emission legislations.

During 2022, Aurobay's MP Miller engine was commissioned to go into production in 2024. Designed independently by Aurobay, the MP Miller engine delivers a combination of a high-performance engine with lower cost and environmental impact than previous engines. As with previous Miller engines the MP variant eliminates the need for fuel enrichment.

Concept Range Extender (REx)

An ICE-based range extender that ensures commercial electric vehicles reach the last mile.

Aurobay REx is designed to run on traditional fuels, eFuels, biofuels, and diesel. With the ability to quickly adapt to different energy sources, it accelerates the transition to a more sustainable tomorrow. With REx, vehicles can travel farther, especially in regions where battery charging infrastructure has not yet been developed.



# Aurobay locations

With manufacturing capabilities in Skövde, Sweden and Zhangjiakou, China, Aurobay combines more than 100 years of continuous innovation, engineering excellence and sustainability with an agile, can-do attitude, cost efficiency and vast global scale.



### Zhangjiakou Aurobay Powertrain Manufacturing Co. Ltd

- 755 people work at the Zhangjiakou plant\*
- Manufacturing and assembling hybrid engines and e-Drives
- Certified IATF16949, ISO 9001, ISO 14001, essential for OEM suppliers
- 200 454 hybrid engines and 231 698 e-motors produced in 2022
- Celebrated 10th Anniversary; 400 000th MEP rolled off line, 1 300 000th hybrid engines rolled off line
   100% group electricity gines hybrid 2022
- 100% green electricity since July 2022

### Powertrain Engineering Sweden AB, Skövde

- 1751 people work at the Skövde plant\*
- Manufacturing and assembling hybrid engines
- Powered by 100% renewable energy
- Certified IATF16949:2016, ISO 9001 and ISO 14001, essential for OEM suppliers
- 343 600 hybrid engines produced in 2022
- Awarded the 2022 Municipality Environmental prize
- Won the Rotorshaft Machining, ASM Rotor Manufacturing
  and Remanufacturing business
- · Rolled out Aurobay clothing, with improved safety, comfort and branding

### Powertrain Engineering Sweden AB, Gothenburg

394 people work in R&D\*

- 211 people work in corporate and other functions\*
- Mainly located in Geely's home of innovators Uni3



# Our people

At Aurobay, we have excellent opportunities for growth and development. Because we're a new company, each one of us can help shape the business. We can make our own choices and our performance is appreciated and rewarded. Here's what some of our people have to say about working here.



### Adelric Wong Digital

"My main role is advancing our web and digital marketing. I am also involved in idea generation and prototyping projects through our incubator Aurobay

X. We look at innovation from the perspective of finding pain points and solving customer problems. At Aurobay, challenges are opportunities for learning.

I chose Aurobay over the other offers I received because of the senior managers who interviewed me. In coming here, I knew I would be given the flexibility to organize how I do things. If your ideas are properly scoped and reasonable, you can go ahead with them.

My background was in start-ups. Now I'm learning how to work in a large business, where there are multiple departments and teams. We are also in many ways a new company. I enjoy the fact that I am growing as Aurobay grows."



### Vicky Dong People & Culture

"I'm responsible for all plant-level training in our Zhangjiakou factory, like learning needs analyses, new employee orientations, leadership and generic

training and the launch of the Aurobay culture. It's a very responsible job in a professional organization and I feel I can have a big impact.

I moved to Aurobay for the opportunity to learn and develop. In the past year, I have already received a lot of coaching and support from my line manager and colleagues. I have good prospects here.

Aurobay's three cultural values are caring, collaborating and creating excellence. That sums up Aurobay exactly. Everybody really cares about each other and it is a very collaborative place. Anyone who joins Aurobay will feel really good about working here."



#### **Tove Kramer**

#### Manufacturing Engineering

"I came here as a Machining Operator directly from school and have worked my way up since then. The company recognized my ambition, transferred

me to a position in Quality, and arranged for me to do some university courses part time. 18 months ago, I moved to Manufacturing Engineering, where most of the team have university degrees.

As a Product and Process Engineer, it's my job to liaise between R&D and our Production teams in Sweden and China to ensure our products can be realized. There are new challenges every day. I love feeling part of a team that makes a difference.

To other girls and women thinking about going into production, quality or engineering, I would say that it's true that those sectors are male dominated. However, that should not hold you back. There are some great female role models at Aurobay. My last two managers have been women, for example."



### Dr Elizabeth Bowyer

"It is well known that there is not one solution in the automotive world's drive towards net zero – both electrification and sustainable ICE will play major roles

in achieving the industry's environmental goals. At Aurobay, we are striving to lead the way, combining technical innovation, performance and sustainability to create the powertrains of the future.

My own focus is on electrification. For electrified powertrains to be truly sustainable it is not just about exhaust emissions but the sustainability of the technology you use to achieve this goal. This includes innovating to remove rare earth elements, using recycled and alternative materials, and process optimisation, to name just a few.

I work with a really amazing cross-functional team. We're a diverse mix of different characters, nationalities and specialisms. Everyone has a real passion and enthusiasm for reaching our technical goals and making the dream of sustainable electrification a reality. We work hard but have a lot of fun doing it!"



### Filip Friberg

Skövde plant

"I joined Aurobay in 2018, as a Production Operator. Now I'm a team leader, looking after cylinder head production. I act as a link between the supervisor

and the factory floor, and have a lot of responsibility for quality and traceability. There's also a great deal of problem-solving with colleagues around the plant.

I've always been keen to grow and develop. In my last role, I got involved in a project at the ASSAR Industrial Innovation Arena in Skövde. Being a team leader represents a huge learning curve for me, and my supervisor continues to stretch me. For example, she's asked me to help scope how our Aurobay SAP system will work for logistics.

Aurobay is a great grounding for your career. You will be successful if you're curious and open to opportunities, whenever they are offered. Be willing to learn and you will get all the experience you need."



# Our history

Aurobay began life as a foundry and engineering company, which was to become a founding partner in Volvo Cars. Since then, it has grown into a global business with a manufacturing footprint on two continents. Throughout its history, whatever it has been called, innovation and the values of caring, collaboration and creating excellence have been at its heart. Aurobay's humble beginnings date back to before the first car was even born. In 1868 the engineer John G Grönvall opened a foundry in Skövde, Sweden. At first the business manufactured cast iron objects such as woodburners, pots and pans. But by the early 1900s, the business had become so successful, the range of products had grown and included larger objects such as turbines and steam engines. In 1907 the order came in to build an engine based on the pioneering ideas which engineers Fritz Engsell and Edvard Hubendick had been collaborating on. They named the engine Penta. And it quickly became a success. About 10 years later, Engsell's engineering firm took over the mechanical workshop, and decided to focus only on engines. By 1919 the former foundry had changed its name from Sköfde Mekaniska Verkstad to AB Pentaverken. In 1925 Pentaverken partnered with SKF to create a Swedish automotive brand. And thus, Volvo Cars was born, with engines manufactured - of course - by Pentaverken.

For the next 100 years, the small town of Skövde became the hub for Volvo's powertrains. Every Volvo Cars engine that has helped families through their day started life at the former Pentaverken plant in Skövde. With innovation at their core, powertrains built in Skövde were a key factor in Volvo Cars' success. In 2012, a new engine plant was built in Zhangjiakou, China, which has pioneered sustainable and lean powertrain manufacturing, producing the I5P, the GEP, the VEP and receiving National Green Plant certification in 2017. In 2021, the decision was made to spin out powertrain design and manufacturing in both Skövde and Zhangjiakou from Volvo Cars. The powertrain business which began life as Pentaverken once again became a company in its own right. With a new name: Aurobay.



# **Executive Management Team**

Power Engineering Sweden AB At publication of this report June 2023

Gender diversity Executive Management Team



Men: 57%Women: 43%



Michael Fleiss Managing Director Nationality: German

Michael set up Powertrain Engineering Sweden as a unit within Volvo Cars in 2019. He has 25 years' experience in product development, having started his career at Volkswagen in Germany, before moving to Bentley Motors in the UK and then to Volvo Cars in Sweden. Michael holds a Masters in Mechanical Engineering from the University of Lübeck.



Daniel Alvarsson Head of Manufacturing Engineering Nationality: Swedish

Daniel came to Powertrain Engineering Sweden AB after over 20 years of leading and managing industrial projects and production operations within Volvo Cars. He holds a M.Sc. in Automation from Chalmers University of Technology in Gothenburg and an MBA from the University of Gothenburg.



Mats Andersson Head of R&D Nationality: Swedish

Before joining Powertrain Engineering Sweden AB, Mats held R&D leadership roles at Volvo Cars, heading up Short I6 Engine programmes 2003–2007 and building up Electrical Propulsion Systems 2014–2017. He holds a Ph. D. from Chalmers University of Technology in Gothenburg and was an Associate Professor in Microelectronics there during the 1990s.



Mattias Berglund Head of Strategy and Alliances Nationality: Swedish

Mattias joined Powertrain Engineering Sweden AB from Volvo Cars, where he was Manager for Powertrain Product Strategy. Mattias holds an M. Sc. in Mechanical Engineering and Industry analysis from Chalmers University of Technology in Gothenburg and comes with more than 20 years of experience within the automotive industry.



Helene Carlson Head of Communications and Public Affairs Nationality: Swedish

Helene has 20 years of strategic marketing and communications leadership within automotive and healthcare. Before joining Aurobay, she was Head of Communications and Investor Relations and was a member of the executive management team for listed company Opus Group AB. She holds an M.A. in Strategic Marketing Communication and Media Studies from the University of Gothenburg, and Leeds Beckett University in the U.K.



Maria Elm Olsson Chief Financial Officer Nationality: Swedish

Maria is an experienced financial leader, with expertise in business planning, financial analysis and modelling, and mergers & acquisitions. Prior to joining Aurobay, Maria worked at SKF, Volvo Cars, Latour Industries AB and Capio Proximity Care. She holds a B.Sc. in Business and Economics from Kalmar University.



**Per Engler** Head of Corporate Functions Nationality: Swedish

Per joined Volvo Cars in 2017 as Head of HR Digital and Consumer Experience, before moving to Powertrain Engineering Sweden AB. Previously, he was Head of HR at Latour Industries for eight years, also serving as CEO of Specma Seals within the group. He holds a Masters in Marketing Management from Griffith University, Australia.



**Bjarne Hammar** Head of Manufacturing, Skövde Nationality: Swedish

Bjarne joined Volvo Cars in 2017 before transferring to Powertrain Engineering Sweden AB. He has had several senior positions in supply chain, R&D and project management within Husqvarna Group and also worked as CEO for a tech company. He holds a M.Sc. in Engineering and Finance from Chalmers University of Technology.



Anette Hansson Ahl Head of Legal and Compliance Nationality: Swedish

Anette has more than 20 years' experience of Swedish and international business law. Before joining Powertrain Engineering Sweden AB, Anette was Founding Partner and previously also Managing Director at a Stockholm-based law firm for many years. Prior to that, she worked as an in-house legal counsel for Hewlett Packard. Anette holds a Master of Laws from both Lund University and Université Panthéon-Assas (Paris II).



Annica Johannsson Head of Quality and Sustainability Nationality: Swedish

Annica moved to Powertrain Engineering Sweden AB after over 20 years of global leadership experience at Volvo Cars, within R&D and Quality. She holds a B. Sc. in Innovation Engineering from Halmstad University and a certification in Combustion Technology from Chalmers University of Technology.



Jonas Leo Chief Information Officer Nationality: Swedish

Before joining Powertrain Engineering Sweden AB, Jonas helped drive Volvo Cars' digital transformation and online consumer experience, first as Director of Enterprise Digital Transformation and then CTO Volvo Online Digital, Care by Volvo. Other roles with the company included Director Global Application Services and Head of Enterprise Digital APAC. He has an M.Sc. in Mechanical Engineering.



Shan Liu Head of Procurement Nationality: Swedish

Formerly Head of Procurement for Internal Combustion Engines at Volvo Cars, Shan has many years of management experience within procurement in Sweden. She also spent three years as a strategic buyer at Hyundai in China. Shan holds an M.Sc. in Logistics and Transportation Management from Gothenburg University.



**Petra Odenman** Head of Sales and Market Nationality: Swedish

Petra came to Powertrain Engineering Sweden AB from AB Volvo, with substantial experience leading matrix organizations in an international environment. She has spent many years in management positions within Sales, Strategy, Production, Logistics and Procurement. Petra began her career at OEM international Internordic Bearing AB, and studied International Business Management at Jönköping University.



**Terry Zhang** Head of Manufacturing, Zhangjiakou Nationality: Chinese

Terry is Plant Manager of the Zhangjiakou Engine Plant and an operational member of Michael Fleiss' management team, supporting Powertrain Engineering Sweden AB's transition to the Aurobay brand. Terry has extensive experience in manufacturing engineering, production and project management in both FIAT and Volvo Cars. He holds a Bachelor's degree in Engineering and an MBA.

# **Board of Directors**

Power Engineering Sweden AB At publication of this report June 2023



#### CORPORATE GOVERNANCE / BOARD OF DIRECTORS



Dr Yuan Shen Chairman of the Board General Manager, Collaborative Innovation Center at Zhejiang Geely Holding Group Nationality: Chinese

Yuan has worked at Geely Group since 2010 and has helped develop a variety of products including the award-winning 1.3T, 1.4T, and 1.0TD turbocharged engines. Previously, he worked at AVL and at the US National Vehicle and Fuel Emissions Laboratory. He has a Ph.D. in Mechanical Engineering and a B.Sc. and M.Sc. in Mechanical Engineering.



### Yong Dai Board member General Manager of Strategy and Investment Management Center of Geely Holding Group Nationality: Chinese

Yong has worked at Geely Holding Group since 2018. Before he rotated to his current position, he served as Financial Director in Geely Auto Group and Head of CEO Office of Zeekr Auto. Before he joined in Geely Holding Group, he worked at Haier Applications and KPMG.



**Michael Fleiss** Board member Managing Director of Powertrain Engineering Sweden AB Nationality: German

Michael set up Powertrain Engineering Sweden as a unit within Volvo Cars in 2019. He has 25 years' experience in product development, having started his career at Volkswagen in Germany, before moving to Bentley Motors in the UK and then to Volvo Cars in Sweden. Michael holds a Masters in Mechanical Engineering from the University of Lübeck.



Tihua Huang Board member General Manager of Legal and Compliance Center of Geely Holding Group Nationality: American

Tihua has worked at Geely Holding Group since 2017. Before that, she worked at several US law firms, including Jones Day, Cadwalader, Wickersham & Taft LLP, and Morrison Foerster LLP. Prior to that, she served as a Judicial Intern at the U.S. Court of Appeals for the Federal Circuit.



**Quan Joe Zhang** Board member CFO of Zhejiang Geely Holding Group Nationality: Chinese

Joe has been CFO of Zhejiang Geely Holding Group since 2021. Having joined Geely in 2014 as the Financial Director of Geely Commercial Vehicle Group, he became Head of Finance at Geely Auto in 2017 and Head of Treasury of Geely Holding Group in 2019. He has extensive management experience, especially in treasury, group M&A and financial management.

### **Employee representatives**



Marko Borg Peltonen Board member Representative of the blue collar union Nationality: Swedish

Marko is the chairman of the blue collar union at Powertrain Engineering Sweden AB. He joined Volvo Cars in 1984 and worked in manufacturing, machining cylinder blocks before becoming a full-time union representative.



Joakim Dahlin Board member Representative of Unionen Nationality: Swedish

Joakim is chairman of the Unionen club at Powertrain Engineering Sweden AB and is a full-time union representative. He previously worked as a Productivity Engineer in projects at the Skövde engine plant.



Tony Hansen Alternate Senior safety representative Nationality: Swedish

Tony is the senior safety representative of the blue collar union. He joined Volvo Cars in 2001 and worked in assembly before starting his current role on a full-time basis.



Håkan Modigh Alternate Representative of Ledarna, Sveriges Chefsorganisation Nationality: Swedish

Håkan is chairman of Sveriges Chefsorganisation (The Swedish Managers Association) at Powertrain Engineering Sweden AB. He previously served as Quality Manager at the Skövde engine plant.



# Sustainability report

### Creating a Sustainable Future

Today the pressure on companies to confront sustainability challenges has reached an all-time high. Consumers, partners, and employees are now more aware than ever before of the impact that businesses have on our planet. As a result, ambitious sustainability commitments are no longer just a moral obligation, but a vital component of building a successful and responsible business.

At Aurobay, we want to lead the way in powering the sustainable mobility of tomorrow. Sustainability is one of three success factors in our corporate strategy and our commitment goes beyond meeting the expectations of our customers, consumers, and regulators. We are setting ambitious targets and pushing ourselves so that our planet, community, and business thrive for generations to come.

To ensure that our sustainability work and communication focuses on the most important sustainability issues, we have looked at how we impact different sustainability topics in our value chain. We have talked to different stakeholders to make sure we considered all perspectives. We have also analyzed how our business can be financially impacted by different developments within the sustainability area, such as changed legislation, clients' sustainability preferences and consequences from climate change, supply chain disruptions and pandemics. Based on this information, we decided which areas we need to prioritize to make a difference. You can find more details about this process in the sustainability appendix on page 50.

Our sustainability strategy stands on three pillars: Cutting emissions, Circular business, and Caring business conduct. By achieving the ambitions in our sustainability strategy, we will decrease our negative sustainability impact along our value chain, without compromising our ability to supply premium quality engines today and tomorrow. Details regarding our progress for each of the strategy key areas can be found on page 38–48.

The sustainability strategy has been developed during 2022, and during 2023 we will continue our work to establish targets and actions for each of the three key areas across all our operations. Furthermore, we will ensure that the goals we set contribute to the UN's global Sustainable Development Goals (SDGs).

Since becoming Aurobay in 2021 we have worked hard to establish our sustainability work and integrate it into all our processes. We still have a long way to go, but during the two years that have passed since the inception of Aurobay as a standalone company, we have come a long way. We are therefore very pleased to present our very first sustainability report, which outlines our progress towards achieving our sustainability ambitions.

### Our sustainability pillars



### Cutting emissions: Our commitment to cut down pollutants and climate emissions

We care about the environment and want to reduce the negative impact of our business. To do this, we are working to cut down on the pollution we create, like greenhouse gases and other harmful emissions. We're incorporating this commitment across our entire business, from start to finish. We want to use sustainable practices and new technologies to create a more sustainable future for everyone. Our aim is to not only reduce our own emissions, but also to inspire and support our suppliers and customers to join us.

### Focus areas

- → Net zero greenhouse gas emissions
- Lowest levels in industry of air pollutants\*



### Circular business: Embracing the circular economy to reduce waste

We are on a journey to shift our business from linear to circular – a system in which waste is minimized and resources are used in a more sustainable and efficient manner. Our goal is to reduce resource consumption by producing engines from secondary and renewable materials and give our products a second life by remanufacturing. We also strive to minimize waste throughout our value chain. By implementing circular business practices, we are not only reducing waste and increasing efficiency, but we are also creating new business opportunities.

- → Independence from primary raw materials
- → A circular value chain

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### Caring business conduct: Our efforts to foster social responsibility and ethical practices

At Aurobay, we believe that a responsible and caring business is one that values people and the planet as much as profits. We are committed to fostering social responsibility and ethical practices throughout our operations and value chain. From sourcing sustainable materials to ensuring fair and safe working conditions for our employees and suppliers, we are dedicated to making a positive impact on the world.

\* Here we refer to harmful air pollutants from combustion technology such as NOx. HCs. CO and pacticulate matter. Greenhouse gas emissions are excluded from this focus area.

- → The best workplace in our industry
- → A sustainable and transparent supply chain




# Cutting emissions

# Net zero greenhouse gas emissions by 2040

At Aurobay, we acknowledge the impact that transportation has on global greenhouse gas emissions, and we aim to lower our greenhouse gas emissions not only in our production sites, but also in our complete value chain. Our goal is to become a net zero company by 2040. During 2023, we will further develop this target and evaluate the possibilities to set a target aligned and validated by the SBTi.

As part of reaching our long-term goal, we have a target to reduce our scope 1, 2 and upstream scope 3 emissions by 5% every year up to 2025, compared to our baseline year of 2021. Our total emissions in the value chain decreased in 2022 by approximately 19%, mainly because we produced fewer engines compared to the previous year. Our emissions per produced engine have decreased 0.5% from 2021 to 2022.

# 



Emission distribution per scope (tonne $CO_2e$ )	2022	2021	Change from 2021
Scope 1	2 965	4 631	-36%
Scope 2	5 699	12 645	-55%
Scope 3	1975 305	2 450 049	-19%
From upstream	304 884	384 318	-21%
From downstream	1670 421	2 065 731	-19%
Total	1983 969	2 467 325	-20%

kg CO <sub>2</sub> e/produced engine	2022	2021	Change from 2021
Emissions per produced engine	3 647	3 666	-0,5%
From upstream	571	590	-3%
From own operations	5	7	-21%
From downstream	3 071	3 070	0%

Our absolute and relative CO<sub>2</sub>e emissions during 2022 and 2021. The relative emissions per produced engine are also distributed into upstream emissions, own operations, and downstream emissions in accordance with the GHG-protocol. The relative emissions are scaled on produced vehicles and is not based on an LCA.

### IN FOCUS

In 2022, Aurobay demonstrated an alternative-fuel\* powered combustion engine, that has manufacturing and materials CO<sub>2</sub> footprint that's 80% lower environmental impact than previous engines. During the engine's creation, Aurobay used recycled plastic and 80% recycled aluminium, resulting in a 50% reduction in carbon footprint during manufacturing. Additionally, special attention was given to the catalyst resulting in a 90% reduction in cold start emissions compared to current engines. When integrated into the appropriate driveline, this engine can achieve comparable life cycle climate emissions to that of an equivalent battery-electric engine powered by wind.

Most of our emissions occur when a user drives a car powered by our engine. Therefore, a target for downstream scope 3 emissions is under development. Even though the target is not yet set, we are continuously working with lowering our downstream emissions. For example, by increasing the efficiency of the engine and developing technologies that lower the greenhouse gas emissions.

Our supply chain is also a significant source for greenhouse gas emissions because of the materials and products we purchase. Aluminum and steel generate more than 60% of the emissions from upstream suppliers. To lower the supply chain emissions we have a target stating that all our direct suppliers should use fossil-free energy by 2025 and reduce dependency on primary raw materials. During 2023, we will map all our suppliers to identify their current energy sources, as well as analyzing how we can support them in their transition to only use fossil-free energy.

A smaller proportion of our emissions come from our own operations, from our factories and offices. As such, we can impact these directly and will make determined efforts to reduce them. We have ongoing projects focusing on energy savings to lower our standby consumption and we are investigating how to optimize our production processes. We are also looking into alternative investments for both heating and cooling at our sites. Despite our efforts, we have slightly increased the energy consumption per engine, which is mainly due to smaller production volumes during 2022 compared to last year. On the positive side, we have lowered the emissions from our energy consumption, as all our sites now use electricity from renewable sources.

# KWH/ENGINE 2021 2022 Energy consumption in production Production site 162 166

Skövde	162	166
Zhangjiakou	122	126

We see a great need to visualize and internalize the costs related to the environmental impact associated with our purchases and strategic decisions. As a start, we are introducing a carbon price on our purchases, as an indicator for environmental impact. We have agreed on an internal price of 1.000 SEK/ton  $CO_2e$ . During the end of 2022, we focused on mapping and creating prerequisites for integrating this carbon price into our purchasing processes. For now, this is a pilot tool being tested in the sourcing process in one of our largest projects.

The scope, level of influence and the use areas connected to the carbon price mechanism remains to be decided, but we have recently started to collect supplier data necessary for calculating and evaluating the climate impact of suppliers, based on this new carbon pricing mechanism.

The total emissions in our value chain are not only a reason for concern from an impact perspective, but it may also have a financial impact on our company in the future. Factors could include a changing business landscape with increased carbon prices and taxes, higher sustainability requirements from clients, and stricter sustainability legislation from governments. By working with lowering our emissions, we are thereby decreasing our impact, while also limiting our business risks.

### Future work

We have high ambitions and targets for sustainability. We are currently developing more detailed targets that will help us establish a clear path towards net zero greenhouse gas emissions by 2040. We will also develop detailed action plans that will be accompanied by resources in terms of competencies, technology development and investment to ensure we live up to our target and goals. For 2023 we have allocated just over 60% of our engineering research budget for zero-emission technology and our target for 2025 is that this number should be 80%.

# Industry-lowest level of air pollutants

Lowering greenhouse gas emissions alone will not lead us to a green future. At Aurobay, we recognize the need to reduce other types of harmful pollutants as well. The engines we produce lead to emission of pollutants along our value chain, such as NOx gases, particulate matter, carbon monoxide and hydrocarbons. The majority of the pollutants occur in the use phase of the engines. These emissions can have negative impacts on both humans and nature, which is why their minimization is necessary. Also, it is crucial for us as a company to be able to meet current and future requirements and expectations regarding pollution levels from our engines. Therefore, one of our key focus areas is to reach the lowest industry levels of air pollutants.

Legislation controls the market and customers follow the market. During 2022 we started a project to adjust our engines so that they will be able to meet the stricter future standard that will be implemented in China, so called CH7. We have projects to minimize air pollution, but the implementation takes time and is dependent on the customer, legislation and implementation of the CH7 requirements. By removing complexity and using state-of-the-art turbo charging, Aurobay's engineers fine-tuned the new engine MP Miller to make it more fuel-efficient than previous variants, while maintaining engine performance. The new MP Miller is a key enabler for compliance with future CH7 standard. It is also more cost-efficient than previous variants, making it highly competitive in the market. This is a groundbreaking achievement and a milestone that shows how resilience, innovative thinking and our collaborative culture can create great results.

### Future work

As part of our sustainability journey, we are currently developing key performance indicators for our ambition of having industry-lowest level of air pollutants. Simultaneously we will establish a detailed action plan for achieving our ambition, as well as continue with our ongoing project for minimizing air pollutants in our value chain.





# **Circular business**

# Independence from primary raw materials

Aurobay still largely relies on a linear economic model, with depletion of natural resources and waste generation along the value chain. Aurobay therefore aims to have a product portfolio that is independent of primary raw materials. This means that as far as possible, all our products should be made of secondary (recycled and/or renewable) material, but without losing quality.

The production of engines mainly uses steel, aluminum and plastic. Using primary raw material often means a higher climate impact from extraction and production compared to using recycled materials. In Aurobay's climate calculations from 2022, we can see that 11% of Aurobay's total emissions came from raw materials needed in the production of the engines.

Using virgin raw materials also increases business risk through increased customer demand for recycled materials and stricter legislation highlights the importance of us not being dependent on them.

### 

In 2022, Aurobay did an LCA (Life Cycle Assessment) on our most sold engine, according to ISO 14040. The purpose was to gather data on the environmental impact of our most sold product and find out how best to lower the negative impact. Focusing on the cradle-to-gate impact, one of the main conclusions was that aluminum had the largest negative environmental. Analysis indicated that the impact could be significantly influenced through the use of recycled aluminum. However, it was also identified that the battery had a significant impact for acidification, eutrophication, human toxicity and material resources even though it accounted for a small share of the engine's mass.

As part of our focus area of moving toward independence from primary raw materials, we are working to continuously increase the recycled and renewable content in our products. Our target levels for 2025 are 80% recycled aluminum, 50% recycled steel and 25% recycled plastics. For our most popular engine, we have now reached levels of 75% recycled aluminum, 47% recycled steel and 3% recycled plastics. This exceeds our customer expectations of having 25% recycled content for steel and 40% recycled content for aluminum by 2025. For plastics, the customer expectations are 25% of recycled or bio-based plastics by 2025. With respect to plastics, we are facing challenges because of poorer mechanical properties and thermal degradation in secondary polymers. The high heat tolerance of the polymers used on our engines are critical, so we must balance the requirements of function and durability with the demand for more recycled/bio-based content, as well as availability and cost. Looking ahead, we will extend our use of recycled material in all our engines to reach our targets.

## Recycled content in our most produced engine (%)



Recycled content in our most produced engine. Our most sold engine represented about 75% of our total production volumes during 2022. Information about recycled content for our other engines is not yet available, and for this reason our total share of recycled content cannot yet be calculated.

### **Future work**

During 2023 we will continue to gather data from our suppliers to get an even better view of recycled materials used in our supply chain, to identify how to increase their use further. Also, we will continue to utilize life cycle assessments to make data-driven decisions and deepen our understanding of material performance to maintain quality while reaching a more sustainable production process.

### A circular value chain

A circular value chain means all products are circulated in some way at the end of their life (i.e. reused, repaired, remanufactured, recycled, repurposed etc.). It also means not further depleting or degrading natural resources, and ultimately not generating any waste that cannot be reused for other purposes. Lastly, it means that all energy used for producing products should come from renewable or fossil-free sources.

### O IN FOCUS

During 2022 we started a pilot study on how to give the engines we produce a second life, in line with our focus on moving towards a more circular business. The goal of the project is to send the engines back to Aurobay's factory in Skövde once they have reached end of life, to be remanufactured and given a second life. Since the successful pilot study, we have now started a project to industrialize remanufacturing to make this a normal part of our business.

By creating a circular value chain, we decrease our negative impact from extraction of materials, such as steel, aluminum, and plastic. From a business perspective it is also important to increase circularity to meet customer demands and prepare for potential future regulations. Additionally, a more circular value chain limits our risk exposure for supply chain disruptions and lack of materials by gaining further possible solutions for sourcing material. As part of our work in creating a circular value chain, we are working to reduce waste from our operations. An important part of this work includes finding opportunities to use scrap material from our production lines and convert it into by-products that can be sold instead of being treated as waste. Today we generate four by-products from our production in Skövde and we are currently looking into new opportunities for using our scrap material. We are also making efforts to increase the share of waste that goes to material recycling by improving our sorting practices. At both our production sites we have ongoing projects focusing on recirculation of washing fluids, recycling of oils and cutting fluids. Even though we have several initiatives ongoing, we can see a slight increase in waste per produced engine at our site in Sweden. This is mainly due to smaller production volumes during 2022 compared to 2021. However, the total amount of waste from both our sites has decreased.

### Future work

We are constantly analyzing how we can push our business model to become more circular. Our primary focus is to increase the possibilities to remanufacture engines and reduce waste along our value chain.

One planned action is to analyze how we can recycle iron from grinding soil. Grinding soil is a residual product consisting of iron and oil, currently collected and treated as hazardous waste. A pilot study will look at separating the iron from the oil, so that it can be recycled.

KG/ENGINE	2021	2022
Waste produced in production		
Production site		
Skövde	19.1	19.6
Zhangjiakou	15.1	14.5

### Waste at our production sites





Skövde Zhangjiakou Material or energy recycling: 64% Waste for combustion without energy recovery: 36%
Zhangjiakou

### 

When Aurobay produces engines, all the various engine parts need to be washed with detergent. This demands a great amount of water and energy, and also generates wastewater. So, our Skövde plant has begun to implement a new washing detergent that reduces the water consumption by about 50%, even at lower washing temperatures. In addition, when the quality of the water is no longer sufficient to effectively wash the engine parts, it will be reused as a cutting fluid in other Aurobay machines. As a result, in 2022 wastewater was reduced by about 20% – or 700 tonnes – and energy consumption at each washer where we implemented the change was as much as 30% lower.

### O IN FOCUS

In the production of engines, lathered crankshafts produce steel chip waste, which for many years has been available to other companies in Sweden to buy as a source of steel. During 2022, our Skövde plant began to sort the chip waste into two categories – short and long. While the long ones remain on the market, the short ones are sent to a company across the road from Aurobay's Skövde factory and used in their production. In this way, the greenhouse gas emissions from transportation of the steel are reduced. NESS



# Caring business conduct

# Becoming the best workplace in the industry

At Aurobay, we believe our employees are the foundation of our success. That's why we're committed to attracting, retaining, and nurturing talents of tomorrow. "The best workplace" for us means creating an inclusive work environment where we have safe, healthy and happy employees who feel proud and motivated of working at Aurobay. We are also striving to increase gender diversity and foster a culture that values diversity and inclusion.

We have several different indicators to track our progress towards this ambition, however, our key performance indicator is Winningtemp Temperature. Winningtemp is an employee survey platform where pulse surveys are sent out weekly to measure the temperature of the employees' job satisfaction, engagement, overall wellbeing, and other metrics. We believe that Winningtemp provides a suitable metric for the quality of our workplace, as we will not have engaged employees unless we provide an inclusive, safe and inspiring place to work. Winningtemp has initially been implemented at our site in Sweden as a pilot and will be implemented at our site in China as well, depending on how the pilot turns out. Weekly employee pulse surveys were implemented for all employees in Sweden in September 2021, and over the past year we have seen a slight change in the response rates for the pulse surveys from an average of 54% for the months where it was active in 2021, to an average of 49% for 2022, but where the last guarter in 2022 had an average response rate of 57%. We have seen an increase in engagement, wellbeing, and job satisfaction

levels from an average of 6.9 for the months it was active in 2021 to an average of 7.2 for 2022. The maximum temperature level is 10, and efforts are being made to continue to increase the response rates and the temperature levels for engagement, as well as overall wellbeing of our employees over the next few years.



Temperature level – Winningtemp

The temperature is only for our employees in Sweden. The temperature for 2021 is based on values from the months it was active in 2021 (September -December). Another metric we are using for tracking our employee engagement in Sweden is the widely recognized Employer Net Promoter Score (eNPS), which reflects how likely our employees are to promote Aurobay as a company. In 2021 we had a score of -25.67 and in 2022 this rose to -23.97. The scale for eNPS score is -100 to +100, and employee responses are divided into "detractors", "passives/neutrals" and "promoters". The majority of Aurobay employees falls under the category "passives/neutrals" based on their answers. The results further indicate that we have a slight underrepresentation of employees considered "promoters" at Aurobay. We take these scores very seriously and are taking measures to address all forms of dissatisfaction in the workplace to increase our employee well-being and consequently our eNPS score.

Lost Time Case Rate\* is an indicator of the diligence with which a company implements worker safety controls and procedures. It's important to keep track of the lost time case rate to ensure the safety and wellbeing of our most important asset, our employees. The lost time case rates for the Skövde plant were 0.29 in 2021 and 0.23 in 2022, for Sweden as a total (office, test environments and laboratories included) it was 0.2 in 2021 and 0.14 in 2022. At the Zhangjiakou plant it was 0.1 in 2021 and 0 in 2022. Measurement of the lost time case rate can help us identify risks and areas of improvement and to implement strategies to reduce workplace injuries and accidents.

Promoting employee heath is a priority for us since we consider it to be one of several success factors to become the best workplace in the industry. Therefore, we offer all employees in Sweden a wellness allowance equivalent of 5 000 SEK annually, as well as access to offers for various wellness activities.

The automotive industry faces a large challenge in terms of gender equality among workers as there is, and traditionally has been, a large underrepresentation of women. Aurobay had an average of 19% women of the total workforce in 2022. We strive to increase the share of women at Aurobay and are taking different actions to do so over the next few years.

### Gender diversity of employees



### Comment on results 2022

At Aurobay, sustainability is not only about reducing our environmental impact but also about creating a positive work environment that fosters a culture of collaboration, respect, and inclusivity. As part of our commitment to sustainability, we have implemented an initiative focused on building a strong organizational culture through Caring, Collaborating and Creating Excellence. Our aim is to create a culture that is embraced by all employees and embedded into every aspect of our operations.

To achieve this goal, we have invested in educating our leaders across all functions on the importance of our values and the role they play in shaping our culture. Our leaders have then led discussions with their teams, inviting and encouraging all employees to participate. By engaging everyone in these discussions, we have created a sense of shared responsibility for building and maintaining a culture that reflects our values.

Through this initiative, we have not only fostered a more positive and supportive work environment but also reinforced our commitment to sustainability both in terms of reducing our environmental impact and promoting social responsibility.

# A sustainable and transparent supply chain

When we say "sustainable and transparent supply chain" we mean transparency and control of social, environmental, and economic impact across our supply chain – from raw material suppliers to the product end-of-life. With this ambition, we also aim to meet all applicable sustainability regulations, customer requirements as well as relevant standards to secure ethical business conduct wherever we operate (such as the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas).

Our business has an indirect impact on the environment in our supply chain, and there are also risks of impact on workers along our supply chain. These impacts we cannot directly influence, but we can influence how we control and set up arrangements with our suppliers. Also, there are customer expectations on us to have good knowledge about our supply chain and impacts occurring. By working in a good way with our supply chain we can also reduce risks that might have a financial impact on us. Such as supply chain disruptions due to pandemics or extreme weather, lack of material and work proactively to prepare for future legislation.

Supplier evaluation in terms of sustainability performance constitutes an important part of our sustainability work. The SAQ (Sustainability Assessment Questionnaire) is an evaluation method set up by the Drive Sustainability initiative. Drive Sustainability is an organization aiming to improve the social, ethical, and environmental performance of automotive supply chains. The SAQ makes a good indicator of the overall sustainability performance of actors in the automotive industry. We aim to continuously increase our score to stay in line with our corporate ambitions of being recognized as one of the most sustainable powertrain companies by 2025. During 2022 we reached a score of 64%. This can be compared to 65% in 2021. The slight negative change in scoring, despite sustainability efforts being made at Aurobay, primarily has to do with a new version of the SAQ questionnaire (SAQ 5.0) being released during 2022. The SAQ also acts as an important tool for evaluation for our own suppliers, along with other tools and questionnaires.

An important part of our work towards creating a sustainable and transparent supply chain consists of mapping so-called conflict minerals, often referred to as "3TGs" (Tin, Tantalum, Tungsten and Gold). These metals are often associated with human rights abuse, if originating from conflict-affected or high-risk areas. To address these risks, we have implemented requirements on our suppliers of parts containing 3TGs to only use smelters that are conformant with the Responsible Minerals Assurance Process (RMAP) Standards. The RMAP offers companies and their suppliers an independent, third-party audit that determines which smelters and refiners that are in line with current global standards of responsible mineral sourcing. It is developed by the Responsible Mineral Initiative's (RMI), which is globally one of the most respected resources for addressing responsible mineral sourcing issues in supply chains.

### Future work

During 2023 our due diligence process will be developed in order to collect more information about the impact our business implies in our value chain, and how we can lower impact and risks associated with our supply chain. Also, we will implement actions to increase our SAQ-score, implement an IT solution to help us improve traceability and transparency in the value chain as well as establishing procedures for onsite assessments of our direct supplier's sustainability performance.

Also, we are currently working to set up our own evaluation method to track the sustainability performance of our suppliers. This is a complement to the SAQ mentioned earlier, to evaluate supplier performance alignment to our own sustainability strategy and ambitions. We have previously released a pilot version of this questionnaire to a selected number of suppliers, and we are launching an updated version during the first half of 2023. These results, together with other factors such as SAQ score, will together make the foundation for our new model of supplier sustainability performance evaluation. The questionnaires and evaluation model will be slightly different for suppliers active in new sourcing compared to suppliers already part of running business.

The idea is that, based on our supplier evaluation model, we will be able to identify high-risk suppliers in terms of environmental and social impact. Based on the identified high-risk suppliers, we will target on-site audits where it is needed the most. The information retrieved from our supplier assessments will strengthen our understanding of the sustainability challenges that our suppliers are facing. This will help us to find a way to collaborate with our suppliers to minimize any negative impact in our supply chain. We consider this an important step in our sustainability work, as we today are only relying on self-assessments for supplier sustainability performance. This will also lead to increased legitimacy among our stakeholders.





# Sustainability appendix

### General

### **Basis for preparation**

This is Aurobay's first sustainability report, and it mainly includes information about our business in Sweden and China. Partly it also contains information about the value chain (where relevant), and the value chain reporting will be improved during the upcoming years. The report has been prepared according to Swedish legislation regarding sustainability reporting, but it has also taken inspiration from the upcoming legislation Corporate Sustainability Reporting Directive (CSRD).

### Governance

### Sustainability organization

Our sustainability organization is set up with the purpose of assuring that decisions are made on the appropriate level, and that information is spread throughout the organization to support the implementation of our sustainability work. A more detailed presentation of our board and executive management team can be found on page 26–32.

In order to anchor our sustainability work with our Executive Management Team, we have Quality and Sustainability Board meetings every month (and more frequently if needed). In the beginning of 2023, a Sustainability Steering Group within the Executive Management Team was created, with representatives from most of our functions in other to further increase the pace of our sustainability work. Our Core Sustainability Group consists of our employees working full time with sustainability in different departments. Additionally, we have a Sustainability Forum which act as a catalyst for sustainability action and a channel for raising questions, ideas and challenges concerning our sustainability work. It is a cross-functional forum with representatives from all major functions that allow us to increase our knowledge sharing and create synergies.

Aurobay has as of today no financial compensation or other incentives schemes connected to sustainability.

Aurobay's owner structure will likely change during 2023, and we will continuously improve procedures, organization, and responsibilities to assure that sustainability topics are included in appropriate ways throughout the entire organization.

### Organization and responsibilities

Board of Directors	KEY RESPONSIBILITIES  • Approve policies
Executive Management Team (EMT)	<ul> <li>KEY RESPONSIBILITIES</li> <li>Validate and provide input to double materiality analysis</li> <li>Approve sustainability targets, roadmaps and resources</li> <li>Monitor progress against selected targets</li> </ul>
Quality & Sustainability Board	KEY RESPONSIBILITIES <ul> <li>Approve documents and take decisions relating to Quality</li> <li>&amp; Sustainability issues</li> </ul>
Sustainability Steering Group (selected group from EMT)	<ul> <li>KEY RESPONSIBILITIES</li> <li>Monitor sustainability goal progress</li> <li>Review decisions made in EMT that may affect our sustainability work and decide how they should be managed</li> <li>Review and manage external socio-economic and environmental changes that may have an impact on our sustainability strategy</li> <li>Prioritize and allocate resources for sustainability</li> </ul>
Core Sustainability Group	<ul> <li>KEY RESPONSIBILITIES</li> <li>Drive implementation of sustainability strategy and targets</li> <li>Ensure compliance with applicable sustainability legislation</li> </ul>
Sustainability Forum	<ul> <li>KEY RESPONSIBILITIES</li> <li>Drive target and roadmap implementation at respective function</li> <li>Report KPIs</li> <li>Spread relevant sustainability information across all functions</li> </ul>

### Strategy

See further information on page 12–15. Presented in the illustration is our main activities along our value chain.



### Interests and views of stakeholders

During 2022 Aurobay conducted a stakeholder analysis where clients, owners, employees, and suppliers were asked about their expectations regarding Aurobay's sustainability work, along with other sustainability related questions. This analysis was presented to the Executive Management Team and served as valuable input in the double materiality process to determine which sustainability topics should be prioritized.

Primary stakeholder groups	Ways of communicating about sustainability	Primary sustainability expectations
Owners	Owner directive and sustainability interviews	<ul> <li>Reduce GHG-emissions &amp; energy efficiency</li> <li>Increase circularity</li> <li>Reduce water use</li> <li>Reduce pollution</li> <li>Good employment conditions</li> <li>Ethical business</li> </ul>
Customers	Dialogue in product development and sales. Sustainability interviews	<ul> <li>Reduce GHG-emissions &amp; energy efficiency</li> <li>Increase circularity</li> <li>Good employment conditions</li> <li>Ethical business</li> </ul>
Employees	Ongoing input and sustainability survey	<ul> <li>Reduce GHG-emissions</li> <li>Increase circularity</li> <li>Reduce pollution</li> <li>Good employment conditions</li> <li>Competence development</li> </ul>
Suppliers	Ongoing dialogue and sustainability survey	<ul> <li>Reduce GHG-emissions</li> <li>Increase circularity</li> <li>Good employment conditions</li> <li>Ethical business</li> <li>Social sustainability in value chain</li> </ul>
Governments	Permits	Follow permits and legislation

# Material impacts, risks and opportunities and their interaction with the strategy

The double materiality analysis has been done by the Executive Management Team, which has also validated and approved the sustainability strategy.

### Topics where Aurobay has material impact

- Greenhous gas emissions
- Energy usage
- Emissions to air
- Material usage and waste
- Social impact in supply chain
- Employer health and safety

### Risks and opportunities that can have material financial impact on Aurobay

- Increased carbon prices
- Increased energy prices and/or limited access
- Stricter sustainability requirements from clients
- Stricter sustainability legislation
- Lack of material
- Lack of sustainability competence
- Impacted supply chain (due to for example extreme weather and pandemics)

### Material sustainability topics

- Climate change (energy usage and greenhouse gas emissions)
- Pollution (emissions to air such as NOx, particulate matter, CO, HCs)
- Resource use and circular economy
- Own workforce
- Workers in value chain

### Sustainability strategy

### **Cutting emissions**

- Net zero greenhouse gas emissions
- Industry-lowest levels od air pollutants

### **Circular business**

- Independence from primary raw materials
- A circular value chair

### Caring business conduct

- The best workplace in the industry
- A sustainable and transparent supply chain

# Impact, risk and opportunity management

Aurobay conducted a double materiality assessment to determine which sustainability topics are material (most important) and therefore will be the focus for the sustainability work and reporting. If Aurobay has a material impact on a sustainability topic, or if a sustainability topic has (or can have) a material financial impact on Aurobay, the topic is a material sustainability topic for Aurobay. The views of the stakeholders have been taken into consideration during the process and sustainability consultants have been consulted.

The assessment of material impact from Aurobay's business and its value chain has been informed by key roles in the organization and validated by the Executive Management Team. The assessment of risks and opportunities that have or might have financial impact on Aurobay from sustainability topics has been conducted by the Executive Management Team. The validation of the double materiality assessment has also been done by the Executive Management Team, using the UN Sustainability Development Goals along with the drafts for the European Sustainability Reporting Standards (ESRS) as tools for scoping the assessments. During 2023, the process will be further implemented in the organization with the purpose of assuring that sustainability impacts, risks and opportunities are implemented in relevant processes and decisions throughout the organization.

### Environment

Our Environmental Policy describes our commitment to conduct business fully in line with the Paris Agreement, while transforming our business from relying on linear principles to circular ones and to have a carbon neutral value chain. The policy sets out key principles for our environmental work and outlines main actions to deliver on our long-term ambitions. It mainly focuses on circularity, target setting principles, stakeholder engagement, technology support, laws and regulations and internal pricing plans for greenhouse gas emissions. The policy includes our own operations, as well as our accountability of our supply chain and downstream emissions.





### Climate

All CO<sub>2</sub>e emissions represented in this report are calculated according to the Greenhouse Gas Protocol (GHG-Protocol). This is the second time doing climate calculations since our company was founded in 2021, and during 2022 we have made several improvements regarding data quality. Also, we have recalculated the base year 2021 so that the calculations are comparable. We will continue to improve our data gathering to make even more detailed climate calculations in the future and further engage our suppliers.

The calculations rely on actual data as well as estimations using an operational control approach and for scope 2 emissions we use a market-based approach. The climate impact has been calculated in the form of carbon dioxide equivalents, where emissions of carbon dioxide from fossil sources, methane and nitrous oxide are included in the calculations. The emissions are reported in three so-called scopes, where:

- · Scope 1 is direct emissions from the organization.
- Scope 2 is indirect emissions that occur during the production of purchased electricity, district heating, district cooling and process steam.
- Scope 3 is other indirect emissions, upstream and downstream in the value chain, which arise from, among other things, purchased journeys, transports, in the production of purchased goods and services and employees' commuting.



Emission distribution per Scope (tonne $CO_2e$ )	2022	2021	Change from 2021
Scope 1	2965	4 631	-36%
Company owned vehicles	61	75	-19%
Energy and facilities	1438	1936	-26%
Fuel use in operations	1467	2 620	-44%
Scope 2	5 699	12 645	-55%
Energy and facilities	5 699	12 645	-55%
Scope 3 upstream	304 884	384 318	-21%
Purchased goods and services	271749	324 141	-16%
Capital goods	5 320	25 751	-79%
Fuel and energy related activities	1086	1405	-23%
Upstream transportation and distribution	22 227	27 496	-19%
Waste generated in operations	1531	2 016	-24%
Business travel	521	431	21%
Employee commuting	2 451	3 079	-20%
Scope 3 downstream	1670 421	2 065 731	-19%
Downstream transportation and distribution	20 616	26 425	-22%
Use of sold products	1648418	2 037 430	-19%
End-of-life treatment of sold products	1387	1875	-26%
Total	1983969	2 467 325	-20%
Total excl. Scope 3 downstream	313 549	401 594	-22%

<sup>1</sup>Market-based emissions. Location-based emissions are 15 404 tonne CO<sub>2</sub>e.

When calculating the CO<sub>2</sub>e emission per produced engine, we have divided the annual total CO<sub>2</sub>e emissions with produced products. The results are thereby not based on life cycle assessments.

### Scope 3 - Use phase emissions

The use phase (scope 3 downstream) constitutes the majority of our value chain emissions. The calculations are based on amounts of engines produced each year, which cars these engines are installed in and an assumed lifetime length in kilometers. This ends up in a total fuel consumption (petrol, diesel and electricity) during the engine's lifetime. In the calculations of emission from these fuels, both the tailpipe emissions and the emissions from making the fuels are included.

### Scope 3 - Supply chain emissions

The materials we use to produce our engines is our second largest contributor of climate emissions in our value chain

(scope 3 upstream). General emission factors are used for the calculations, and in the future, we will increase our supplier specific factors to better capture emission variations between different suppliers and regions.

### Scope 1 and 2 - Emissions linked to our own operations

The emissions linked to our own operations (scope 1 and 2) are a minor contributor to our total climate emissions. The reduction of scope 1 emissions is not yet fully investigated but is likely mainly described by less tests and stop days, in combination with a periodicity effect of fuel stocks as calculations are based on purchased fuels.

Our emissions in scope 2 have decreased with around 55%, which is mainly explained by the fact that since July 2022 our site in China has bought electricity with guarantees of origin (wind and solar based).

### Water

Water use did not score highly in our materiality assessment, however it is included in this report due to specific interest and tracking from certain stakeholders. Several projects have been carried out to reduce water consumption in our production processes, such as reuse of washing fluids, water in the heating system and wastewater. Despite our efforts, the water consumption increased slightly during 2022 at our Skövde site. This can primarily be explained by warmer weather which increased evaporation in our cooling towers.

LITER/ENGINE	2021	2022
Water consumption in production		
Production site		
Skövde	97	107
Zhangjiakou	225	218

### Chemical use

As well as water, chemical use has not been deemed as a highly material topic in our materiality assessment. However, this is included in this report due to specific interest and tracking from certain stakeholders. In 2022 we have reviewed the chemicals used at our sites, to examine which chemicals can be eliminated, or substituted with options of lower chemical hazard levels. This has resulted in an overall reduction of chemical hazard level among chemicals at our production sites in both Sweden and China. We still use a few chemicals that are included in the candidate list, but the ones that remain are difficult to replace due to quality control aspects. There is continuous work to substitute our chemicals with less harmful alternatives and find ways to minimize the usage of chemicals in the production processes.



### Social

### Own workforce

The policies related to Aurobay's own workforce are the People Policy, the Health and Safety Policy, and the Code of Conduct.

The People Policy applies to all Aurobay employees, and is guided by international Human Rights standards, including the Universal Declaration of Human Rights, the International Labor Organization's Declaration on Fundamental Principles and Rights at Work, and the United Nations Global Compact. The policy concerns non-discrimination and harassment, child labor, forced labor, health and safety etc. If an employee notices any activity or conduct that may result in a violation of this policy, the employee is expected to report the issue promptly to either a direct manager or a local People & Culture representative. If, for some reason, the employee is not comfortable with this reporting procedure, the employee can also contact another manager or the Legal & Compliance Department or report via the whistleblowing reporting line. More about what Aurobay expect from their employees and how to act in terms of reporting suspected or non-compliance issues, is written in the Internal Reporting Policy.

Aurobay's Health and Safety Policy is grounded on our culture and core values; Caring, Collaborating, and Creating Excellence. The policy describes how safety should be the top priority of everything we do at Aurobay, and that it should be achieved through cooperation, monitoring and assessment of risks, follow up deviations, trainings, and encouragement of reporting deviations. The managers have the main responsibility for the employees' health and safety in the workplace, but the employees also have an obligation to contribute to a safe working environment for themselves and others by following rules and instructions.

The policies are communicated on our intranet and cover all employees in Sweden and China. If any change may occur in any of the policies related to our own workforce in China or Sweden, a negotiation has to be made with the labor union.

In order to prevent future negative impacts on our own workforce, a training for all Swedish Aurobay employees is planned in connection to Aurobay's Code of Conduct and People Policy. Also, a leadership program was developed during 2022, which will keep operating during 2023.

### Governance Business conduct

Aurobay is against all forms of bribery and corruption and is committed to follow applicable laws, rules and regulations governing anti-bribery and corruption in all countries where we operate. Our standing point is stated in the Anti-corruption policy, which is applicable for all our employees. We have a Legal & Compliance Department and a whistleblowing reporting line that is available to help prevent and identify any actions or behavior that is not in line with our way of working. The whistleblowing reporting line is available for both employees of Aurobay and external parties. There has been no identified incidents of bribery or corruption during 2022.

We are committed to responsible business and intends to demonstrate this commitment to integrity, business responsibility and trust throughout our value chain. Therefore, we expect the same level of commitment from our suppliers. The Code of Conduct for Suppliers articulates a vision of responsible business behavior and sets forth the business principles that we require all our suppliers to abide by in the course of their business relationship with us. The policy includes supplier expectations regarding working conditions and human rights, caring for the environment, business integrity, audit right, grievance channel and cooperation and consequences of violations.

When working with technology innovation and creating valuable relations, information is sometimes needed to be handled carefully. We respect and safeguard the privacy of our customers, employees, and business partners, whether former, current or prospective. We follow applicable laws, rules and regulations governing privacy and data protection in all countries where we operate. Our standing point is stated in our Data Protection policy, which is applicable for all Aurobay employees.

# Financial report

# Board of Directors' report

### General information about the business

Powertrain Engineering Sweden AB is a global supplier of complete powertrains, including next-generation internal combustion engines and hybrid solutions.

Headquartered in Gothenburg, Sweden, the company comprises the Skövde powertrain plant and central functions, combining:

- Major manufacturing, R&D and digital capabilities
- More than 100 years of continuous innovation in powertrain technology and electrification
- A highly-skilled workforce of more than 1,850 people including almost 500 specializing in R&D and manufacturing engineering.

The main part of the turnover is made up of sales to Volvo Car Corporation.

### **Ownership structure**

The Company is a wholly-owned subsidiary to Geely Zhejiang Aurobay Powertrain Co., Ltd., which is a fully

owned subsidiary of Zhejiang Geely Chantou Holding Co. Ltd., wich ultimately is owned by Zhejiang Geely Holding Group Company Limited, registered in Hangzou China.

### Legally mandated sustainability report

Powertrain Engineering Sweden AB has prepared a sustainability report according to the Swedish Annual Accounts Act (1995:1554). The sustainability report consists of information on the following pages:

- Business model We are Aurobay, page 8-25
- Sustainability information Sustainability report, page 35–59

### Significant events during 2022

On August 11, 2022, 100% of the shares of Powertrain Engineering Sweden AB were sold to Zhejiang Aurobay Powertrain Co., Ltd.

# Development of the Company's business, profit and position

### THOUSAND SEK

Financial overview	2022	2021	2020	2019
Net sales	11 086 682	11 544 829	-	-
Operating margin, %	1,1%	2,6%	-	-
Total assets	7 399 594	7 000 119	4 750 558	187
Return on capital employed, %	2,5%	6,6%	-	-
Return on equity, %	2,6%	-	-	-
Equity ratio, %	64,6	62,0	100,0	65,8

### Subsequent events

The expectation is that the company in 2023 will become part of a new corporate group, formed by Renault and Geely with the intention of becoming a world leader in the development, manufacture and supply of next-generation hybrid lines and fuel-efficient engines.

### Material risks and uncertainties

The company's mission is to develop and produce worldclass lifeline solutions for a global market. The business shall continue to create value for our customers through the manufacture of highly efficient and low-emission engines, as well as R&D and manufacturing services in world class. We will also further develop our vision for the mobility of the future, with new technologies and solutions adapted accordingly challenges of the future. The world is in a critical period. The climate crisis is worsening and the transition to net zero must be accelerated. Technology, consumer demand and behaviors are changing, changing and creating a revolution in automation, customer focus and connectivity. These are the greatest challenges of our time and our greatest opportunities.

### Activities within research and development

Powertrain Engineering Sweden AB conducts internal research and development on solutions within our research concerns or together with customers. The company also performs R&D services for companies that develop their own products and provides support in the product journey from idea and prototype to testing and validation. . . . . . . . . . . . . . . . .

### Proposed allocation of the Company's profit

The Board of Directors propose that the non-restricted equity, SEK 4 660 545 400, is allocated as shown below:

Carry forward	4 660 545 400
Profit brought forward	4 290 817 233
Profit of the year	89 446 167
Group contribution	280 282 000
THOUSAND SEK	

Further information regarding the company's profit and financial position information can be found in the following income statement, balance sheet, cash flow statement and pertaining notes.

### **Income Statement**

THOUSAND SEK	Note	2022-12-31	2021-12-31
Net sales	2	11 086 682	11 544 829
Cost of goods sold		-10 281 226	-10 661 640
Gross profit/loss		805 456	883 189
Selling expenses		-17 711	-24 654
Administrative expenses	3	-553 741	-473 324
Research and development costs		-92 658	-102 885
Other operating income		81 403	38 608
Other operating expenses		-98 402	-20 243
Operating profit/loss	4, 5, 6	124 347	300 691
Profit/loss from financial items			
Interest income and similar profit	7	32 984	14 664
Interest expense and similar loss items	8	-20 168	-7 595
Profit/loss after financial items		137 163	307 760
Appropriations			
Group contribution, received		67 888	-
Group contribution, paid		-	-307 000
Appropriations, other	9	-89 619	-
Profit/loss before tax		115 432	760
Tax on profit for the year	10	-25 986	207
Net profit/loss for the year		89 446	967

### **Balance Sheet**

THOUSAND SEK	Note	2022-12-31	2021-12-31
Assets			
Non-current assets			
Intangible assets			
Capitalised expenditures for developments	11	50 348	-
Concessions, patents, licences, trademarks and similar	12	1878	39
ERP system	13	34 470	35 347
Advance payments for intangible assets	14	27 929	-
		114 625	35 386
Property, plant and equipment			
Land and buildings		154	154
Expenditures incurred on someone else's property	15	68 711	76 121
Plant and machinery	16	2 141 785	2849190
Equipment, tools, fixtures and fittings	17	304 259	405 787
Construction in progress and advance payments for			
property, plant and equipment	18	123 273	73 502
		2 638 182	3 404 754
Financial assets			
Participation in group companies	19	1025.008	988 484
Participations in other companies	20	41	
Deferred tax asset	21	1732	2436
Other long-term receivables	21	68	-
		1026 849	990 920
Total non-current assets		3 779 656	4 431 060
Current assets			
Inventories etc.			
Raw materials and consumables		271006	276 166
Products in progress		16 652	8 691
Finished goods and goods for resale		166 341	116 401
Advance payments to suppliers		160 153	176 174
		614 152	577 432
Current receivables			
Accounts receivable - trade		1 137 539	13 926
Receivables from group companies		67 888	406 582
Current tax assets		37 509	60 199
Other receivables		39 877	7 827
Prepaid expenses and accrued income	22	795 862	660 273
		2 078 675	1 148 807
Cash and bank balances			
Cash and bank		027 111	840 800
		927 111 027 111	042 020 813 930
		327 111	042 020
Total current assets		3 619 938	2 569 059
Total assets		7 399 594	7 000 119

### **Balance Sheet**

THOUSAND SEK	Note	2022-12-31	2021-12-31
Equity and liabilities			
Equity	23		
Restricted equity			
Share capital		50	50
Development expenditure reserve		50 348	_
		50 398	50
Non-restricted equity			
Profit or loss brought forward		4 571 100	4 340 199
Net profit/loss for the year		89 446	967
		4 660 546	4 341 166
		4 710 944	4 341 216
Untaxed reserves			
Accumulated excess depreciation and amortisation	24	89 619	-
		89 619	-
Provisions			
Other provisions for pensions and similar obligations	25	201664	135 181
		201664	135 181
Current liabilities			
Accounts payable – trade		1 510 667	1285 877
Liabilities to group companies		62 610	474 920
Other liabilities		134 621	111 113
Accrued expenses and deferred income	26	689 469	651 812
		2 397 367	2 523 722
Total equity and liabilities		7 399 594	7 000 119

### Statement of changes in equity

2022-12-31		Restricted equity				N	on-restricted equity
	Share capital New Share Issue i.p.	Revaluation reserve	Statutory reserve Development expenditure reserve	Share premium reserve	Reserve for development expenditures	Profit-/loss brought forward incl. net profit-/loss for the year	Total equity
Opening balance	50	-	-	-	-	4 341 166	4 341 216
Net profit	50	-	-	-	-	89 446	89 446
Transactions with owners							
Shareholders' contribution received							
Total	-	-	-	-	-	280 282	280 282
Reallocations of items in equity							
Fund for developement expenditure		-	50 348		-	-50 348	-
Total	-	-	50 348	-	-	-50 348	-
At year end	50	-	50 348	-	-	4 660 546	4 710 944

### Cash flow statement

THOUSAND SEK	2022-12-31	2021-12-31
Operating activities		
Profit/loss after financial items	137 163	307 760
Adjustments for non-cash items, etc.	918 998	868 070
	1 056 161	1 175 830
Income tax paid	-25 282	-2 229
Cash flow from operating activities before working capital changes	1030879	1 173 601
Cash flow from working capital changes		
Increase(-)/Decrease(+) of inventories	-36 720	-577 432
Increase(-)/Decrease(+) of current receivables	-929 936	3 601 597
Increase(+)/Decrease(-) of current liabilities	-90 401	2 418 809
Cash flow from operating activities	-26 178	6 616 575
Investing activities		
Acquisition of property, plant and equipment	-177,980	-4 017 442
Disposal of property, plant and equipment	67 767	-
Acquisition of intangible assets	-90 923	-50 829
Acquisition of financial assets	-36 565	-988 484
Cash flow from investing activities	-237 701	-5 056 755
	67.000	
	07 888	-
	200 202	207.000
Paid dividend to the perent company's share helders		-307 000
Cash flow from francing activities	249 170	-717 000
Cash now non-mancing activities	340 170	-717 000
Cash flow for the year	84 291	842 820
Cash and cash equivalents at the beginning of the year	842 820	-
Cash and cash equivalents at the end of the year	927 111	842 820

### Notes

Amounts in THOUSAND SEK unless otherwise stated

### Note 1 Accounting principles

The Annual Report has been prepared in accordance with the Annual Accounts Act and the Swedish Accounting Standards Board's generally accepted accounting principles BFNAR 2012:1 Annual Report and consolidated accounts (K3).

Assets, provisions and liabilities have been valued at acquisition cost unless otherwise is stated below.

### Intangible assets

### Expenditures for research and development

Expenditures for research, i.e. planned and systematic searching with the aim to obtain new scientific or technical knowledge and insight, are accounted for as expenses when incurred.

For accounting of expenditures regarding development of developed research results or other knowledge the expense model is used, which implies that all expenditures are expensed when incurred.

For accounting of expenditures regarding development, the capitalisation model is applied. This implies that expenditures that have arisen during the development period are accounted for as an asset when the conditions below are fulfilled:

- It is technically possible to finalise the intangible asset so that it can be used or sold.
- The intension is to finalise the intangible asset and to use or sell it.
- It exists prerequisites for using or selling the intangible asset.
- It is probable that the intangible asset will be generating future economic benefits.
- There are necessary and adequate technical, financial and other resources in order to complete the development and to use or sell the intangible asset.
- The expenditures attributable to the intangible asset can be estimated reliably.

Internally generated intangible assets are accounted for at acquisition cost less accumulated amortisations and impairments.

### Other intangible assets

Other intangible assets acquired are accounted for at acquisition cost less accumulated amortisation and impairments. Expenditures for internally generated goodwill and brands are recognised in the income statement as expenses when incurred.

### Amortisations

The amortisation is made linearly over the asset's estimated useful life. The amortisation is recognised as an expense in the income statement.

Internally generated intangible assets	Useful life
Capitalised expenditures for development	
and similar tasks	3–8 years
Acquired intangible assets	Useful life
Licences	10 years
Software	3-8 years

### Property, plant and equipment

Property, plant and equipment are accounted for at acquisition cost less accumulated depreciations and impairments. The acquisition value includes, in addition to the purchase price, other expenditures directly attributable to the acquisition.

### Additional expenditures

Additional expenditures that fulfil the criteria of an asset are included in the carrying amount of the asset. Expenditures for ongoing maintenance and repairs are recognised as expenses when incurred.

### Depreciations

Depreciations are done linearly over the asset's estimated useful life, since it reflects the expected usage of the asset's future economic benefits. The depreciation is recognised as an expense in the income statement.

### Useful life

Incurred expenditures on others' properties	30 years
Plants and machineries	5-10 years
Equipment, tools, fixtures and fittings	2–10 years

### Impairments – Property, plant, equipment and intangible assets and shares in group

At every closing date, an assessment is made concerning whether or not there is an indication of if the asset's value is lower than the carrying value. If an indication exists, the recoverable amount of the asset is calculated. The recoverable amount is the highest of the fair value less cost to sell and the value in use. When calculating the value in use, future expected cash flows that the asset is expected to generate in the ongoing operations and when it is disposed are discounted to a present value. The discount rate used is before tax and reflects the marketable assessment the time value of money and the risks attributable to the asset. A previous impairment is only reversed if the reasons underlying the calculation of the recoverable amount at the last impairment have changed.

### Leases

### **Operating lease contracts**

The leasing fees according to the operating lease contracts, including increased first-time rent but excluding expenditures for services, such as insurance and maintenance, are accounted for as expenses linearly over the lease term.

### Foreign currencies

### Items in foreign currencies

Monetary items in foreign currencies are recalculated to the balance sheet date's rate.

Foreign currency differences that arise due to settlement or recalculation of monetary items are recognised in the income statement for the fiscal year they arise.

### Inventory

The inventory is recognised at the lowest of the acquisition cost and net realisable value. Thereby risks of obsolescence have been considered. The acquisition cost is estimated according to the first-in-first-out principle. The acquisition cost consists of, except expenditures for purchases, expenditures for bringing the goods to their current location and condition.

In self semi-manufactured and finished goods, the acquisition cost consists of direct costs of production and the indirect costs that amounts to more than an insignificant part of the total expenditures for the production. At the measurement, considerations have been taken into account regarding a normal capacity utilisation.

### Shares in subsidiaries, associated companies and jointly controlled companies

Shares in subsidiaries, associated companies and jointly controlled companies are accounted for at acquisition cost less accumulated impairments [with addition of revaluations]. The acquisition cost includes, except the purchase price, expenditures directly attributable to the acquisition.

### Remuneration to employees

### Remuneration to employees after terminated employment *Classification*

Plans for remunerations after terminated employment are classified either as defined contribution plans or defined benefit plans.

For defined contribution plans, determined fees are paid to another Company, normally an insurance company, and the Company does not have any obligation to the employee when the fee is paid. The size of the employee's remunerations after terminated employment is dependent on the fees that have been paid and the return on capital on those fees.

For defined benefit plans, the Company has an obligation to provide the remunerations agreed upon to current and earlier employees. The Company carries in all material aspects the risk for the remunerations to be higher than expected (actuarial risk) and the risk for the return on the assets to deviate from the expectations (investment risk). Investment risk also exists if the assets are transferred to another Company.

### Defined contribution plans

The fees for defined contribution plans are recognised as expenses. Unpaid fees are accounted for as a liability.

### Defined benefit plans

Plans for which pension premiums are paid are accounted for as defined contribution plans, which implies that the fees are expensed in the income statement.

### Tax

Tax on profit for the year in the income statement consists of current tax and deferred tax. Current tax is the income tax for the current financial year, which refers to the year's taxable profit and the part of earlier financial years' income tax that have not been recognised. Deferred tax is the income tax for taxable profits referring to future financial years due to earlier transactions or happenings. Deferred tax liabilities are recognised for all taxable temporary differences, however, deferred tax attributable to untaxed reserves are not separated since untaxed reserves are accounted for as a separate item in the balance sheet. Deferred tax assets are recognised for tax-deductible temporary differences and for the possibility to in the future use taxable loss carry-forwards. The valuation is based on the carrying amount for the corresponding asset or liability that is expected to be recovered or settled. The amounts are based on the tax rates and tax laws that are determined before the balance sheet date and have not been estimated to their present value.

Deferred tax assets have been valued at the highest amount possibly recovered based on current and future taxable profits. The valuation is reviewed at every balance sheet date.

### Provisions

A provision is recognised in the balance sheet when the Company has a legal or informal obligation due to an occurred event and it is possible that an outflow of resources are required in order to settle the obligation and a reliable estimation of the amount can be made.

At the first reporting date, the provision is valued at the best estimation of the amount that will be required in order to settle the obligation at the balance sheet date. The provision is reviewed at every balance sheet date.

### **Contingent liabilities**

A contingent liability is:

- A potential obligation attributable to past events and which existence only will be confirmed by one or several uncertain events, which are not within the Company's control, occur or absent, or
- A existing obligation due to past events, but has not been recognised as a liability or provision since it is not probable that an outflow of resources will be needed to settle the obligation or the obligation's size cannot be estimated with sufficient reliability.

Contingent liabilities is the common term for such warranties, financial obligations and contingent liabilities not presented in the balance sheet.

### Revenues

The inflow of financial benefits that the Company receives or will receive on its own behalf are recognised as revenues. Revenues are valued at fair value of what has been received or will be received, less discounts.

### Sale of goods

For sale of goods, the revenue is recognised at delivery.

### Group contributions and shareholders' contribution

Group contributions received/issued are recognised as an appropriation in the income statement. The received/ issued group contribution has affected the Company's current tax.

Shareholders' contribution that have been issued without issued shares or other received equity instruments in exchange are recognised in the balance sheet as an increase of the shares' carrying amount.

# Note 2 Net sales by business and geographic segments

THOUSAND SEK	2022-12-31	2021-12-31
Net sales by business seaments		
Net sales – Engines	10 355 438	10 870 412
Net sales – Services	101 100	88 539
Net sales – Other	630 144	585 878
	11 086 682	11 544 829
Net sales by geographic segments		
Sweden	8 269 873	8 728 020
Europe, Exlc. Sweden	1477 629	1 477 629
Outside of Europe	1 339 180	1 339 180
	11 086 682	11 544 829

### Note 3 Audit fees and expenses

THOUSAND SEK	2022-12-31	2021-12-31
Deloitte AB		
Audit services	800	902
Audit services in excess of the audit engagement	200	-
	1000	902

Audit services refer to the legally required examination of the annual report and the book-keeping, the Board of Director's and the Managing Director's management and other audit and examinations agreed-upon or determined by contract.

This includes other work assignments which rest upon the Company's auditor to conduct, and advising or other support justified by observations in the course of examination or execution of such other work assignments.

# Note 4 Employees, personnel costs and remunerations to Board of Directors

Average number of employees	2022-12-31	whereof men	2021-12-31	whereof men
Sweden	1712	74%	1825	71%
Total	1 712	74%	1825	71%

	2022-12-31	2021-12-31
	<b>Proportion of</b>	Proportion of
Disclosure of gender distribution in the Company's management	women	women
Board of Directors	14%	11%
Other senior management	43%	31%

Salaries, other remunerations and social security expenses,		
including pension	2022-12-31	2021-12-31
Salaries and remunerations	1000 512	1067 964
Social security expenses	457 823	476 752
(of that pension expenses) (1)	(85 312)	(95 133)

1) Of the Company's pension expenses 2 082 tkr (p.y. 624 tkr) relate to the Company's Board of Directors and Managing Director.

# Note 5 Depreciation, amortisation and impairment of property, plant and equipment and intangible assets

THOUSAND SEK	2022-12-31	2021-12-31
Depreciation and amortisation according to plan divided by asset		
Capitalised expenditures for developments and similar	-11 675	-7 746
Concessions, patents, licences, trademarks	-9	-9
Expenditures incurred on someone else's property	-7 410	-7 401
Plant and machinery	-783 150	-512 302
Equipment, tools, fixtures and fittings	-97 026	-95 647
	-899 270	-623 105

### Note 6 Operating lease

THOUSAND SEK	2022-12-31	2021-12-31
The financial year's recognised lease expenses	23 033	30 159

### Note 7 Interest income and similar profit

THOUSAND SEK	2022-12-31	2021-12-31
Interest income, group companies	-	1943
Interest income, other	817	-
Exchange gains	32 167	12 721
	32 984	14 664

# Note 8 Interest expense and similar loss items

THOUSAND SEK	2022-12-31	2021-12-31
Interest expense, group companies	_	-67
Interest expense, other	-20 168	-7 528
	-20 168	-7 595

### Note 9 Appropriations, other

THOUSAND SEK	2022-12-31	2021-12-31
Difference between tax depreciation/amortisation and	-89 619	-
Group Contribution	67 888	-307 000
	-21731	-307 000
#### Note 10 Tax on profit for the year

THOUSAND SEK	2022-12-31	2021-12-31
Current tax expense	-25 986	207
	-25 986	207

		2022-12-31		2021-12-31
Reconciliation of effective tax rate	Per cent	Amount	Per cent	Amount
Profit/loss before tax		115 432		760
Tax according to current tax rate for the parent company	20,6%	-23 779	20,6%	-157
Non-deductible expenses	0,0%	11	-47,9%	364
Non-taxable income	1,0%	-1 201	0,0%	-
Tax attributable to earlier years	0,3%	-314	0,0%	-
Other	0,6%	-703	0,0%	-
Reported effective tax	22,5%	-25 986	-27,3%	207

#### Note 11 Capitalised expenditures for developments

THOUSAND SEK	2022-12-31	2021-12-31
Accumulated acquisition costs		
At the beginning of the year	-	-
Internally developed assets	50 348	-
At the end of the year	50 348	-

# Note 12 Concessions, patents, licences, trademarks and similar rights

THOUSAND SEK	2022-12-31	2021-12-31
Accumulated acquisition costs		
At the beginning of the year	48	-
Internally developed assets	1848	48
At the end of the year	1896	48
Accumulated amortisation		
At the beginning of the year	01–10	-
Amortisation during the year	-9	-9
At the end of the year	-18	-9
Carrying amount at the end of the year	1878	39

### Note 13 ERP system

THOUSAND SEK	2022-12-31	2021-12-31
Accumulated acquisition costs		
At the beginning of the year	52 945	-
Purchases	433	52 945
At the end of the year	53 378	52 945
Accumulated amortisation		
At the beginning of the year	-17 598	-
Amortisation during the year	-1 310	-17 598
At the end of the year	-18 908	-17 598
Carrying amount at the end of the year	34 470	35 347

## Note 14 Advance payments for intangible assets

THOUSAND SEK	2022-12-31	2021-12-31
At the beginning of the year	-	-
Advance payments paid during the year	27 929	-
Carrying amount at the end of the year	27 929	-

# Note 15 Expenditures incurred on someone else's property

THOUSAND SEK	2022-12-31	2021-12-31
Accumulated acquisition costs		
At the beginning of the year	83 522	-
Purchases	-	83 522
At the end of the year	83 522	83 522
Accumulated depreciation		
At the beginning of the year	-7 401	-
Depreciation during the year	-7 410	-7 401
At the end of the year	-14 811	-7 401
Carrying amount at the end of the year	68 711	76 121

## Note 16 Plant and machinery

THOUSAND SEK	2022-12-31	2021-12-31
Accumulated acquisition costs		
At the beginning of the year	3 334 207	-
Purchases	25 293	3 349 785
Acquisitions		-
Disposals	-13 138	-15 578
Reclassifications	19 035	-
Translation differences during the year	_	-
At the end of the year	3 365 397	3 334 207
Accumulated depreciation		
At the beginning of the year	-485 017	-
Acquisitions	-	-
Reversed depreciation on disposals	3 857	-
Reclassifications	-	-
Depreciation during the year	-742 452	-485 017
Translation differences during the year	-	-
At the end of the year	-1 223 612	-485 017
Carrying amount at the end of the year	2 141 785	2 849 190

## Note 17 Equipment, tools, fixtures and fittings

THOUSAND SEK	2022-12-31	2021-12-31
Accumulated acquisition costs		
At the beginning of the year	526 210	-
Purchases	17 623	527 682
Acquisitions	-	-
Disposals	-11 983	-1472
Reclassifications	23 612	-
Translation differences during the year	-	-
At the end of the year	555 462	526 210
Accumulated depreciation		
At the beginning of the year	-120 423	-
Acquisitions	-	-
Reversed depreciation on disposals	6 944	-
Reclassifications	-	-
Depreciation during the year	-137 724	-120 423
Translation differences during the year	-	-
At the end of the year	-251 203	-120 423

# Note 18 Construction in progress and advance payments for property, plant and equipment

THOUSAND SEK	2022-12-31	2021-12-31
At the beginning of the year	73 502	-
Reclassifications	-42 646	-
Investments	92 417	73 502
Carrying amount at the end of the year	123 273	73 502

### Note 19 Participation in group companies

THOUSAND SEK	2022-12-31	2021-12-31
Accumulated acquisition costs		
At the beginning of the year	988 484	-
Acquisitions	36 524	988 484
At the end of the year	1025008	988 484
Carrying amount at the end of the year	1025 008	988 484

Specification of the Company's participation in group companies		2022-12-31	2021-12-31	
Number of Shares		Carrying	Carrying	
Subsidiary / Corp. Id. No. / Registered office	shares	in (%)	amount	amount
Powertrain Engineering Sweden Real Estate AB, 559140-6425	100	100,0	1025008	988 484
			1025 008	988 484

## Note 20 Participations in other companies

THOUSAND SEK	2022-12-31	2021-12-31
Accumulated acquisition costs		
At the beginning of the year	-	-
Acquisitions	41	-
At the end of the year	41	-
Carrying amount at the end of the year	41	-

#### Note 21 Deferred taxes

THOUSAND SEK	2022-12-31	2021-12-31
At the beginning of the year	2 4 3 6	-
Additional assets	-	2 4 3 6
Settled assets	-704	-
At the year end	1732	2 4 3 6

### Note 22 Prepaid expenses and accrued income

THOUSAND SEK	2022-12-31	2021-12-31
Accrued Income	773 674	654 049
Other items	22 188	6 224
	795 862	660 273

### Note 23 Number of shares and quotient value

THOUSAND SEK	2022-12-31	2021-12-31
A-Class		
number of shares	500	500
quotient value	100	100

# Note 24 Accumulated excess depreciation and amortisation

THOUSAND SEK	2022-12-31	2021-12-31
Accumulated excess depreciation and amortisation	89 619	-
	89 619	_

### Note 25 Other provisions

THOUSAND SEK	2022-12-31	2021-12-31
Guarantee commitment	201644	135 181
	201644	135 181

# Note 26 Accrued expenses and deferred income

THOUSAND SEK	2022-12-31	2021-12-31
Deffered Income	186 155	173 909
Accrued Expenses - R&D	31 511	27 680
Accrued expenses - Personell	411 249	409 594
Accrued expenses - Other	60 554	40 629
	689 469	651 812

# Note 27 Pledged assets and contingent liabilities

THOUSAND SEK	2022-12-31	2021-12-31
Other pledges and collaterals	3 500	3 500
Customs guarantee	3 500	3 500

#### Note 28 Group information

The Company is a wholly-owned subsidiary to Geely Zhejiang Aurobay Powertrain Co., Ltd., which is a fully owned subsidiary of Zhejiang Geely Chantou Holding Co. Ltd., wich ultimately is owned by Zhejiang Geely Holding Group Company Limited, registered in Hangzou China.

#### Purchases and sales within the group

Of the Company's total purchases and sales in SEK, 0 TSEK (0%) of the purchases and 10 526 832 TSEK (94%) of the sales refer to other Companies within the group that the Company belongs to.

#### Note 29 Key ratios definitions

Operating margin:	Operating profit/loss / Turnover
Return on capital employed:	(Operating profit/loss + financial income) / Average capital employed
Financial income:	Items in the financial net that are attributable to assets (which are included in capital employed)
Capital employed:	Total assets – Non-interest-bearing liabilities
Non-interest-bearing liabilities:	Liabilities that are not interest-bearing. Pension liabilities are considered as interest-bearing.
Return on equity:	Net profit/loss for the year attributable to the parent company's shareholders / Average equity attribut- able to the parent company's shareholders
Equity ratio:	(Total equity + equity share of untaxed reserves) / Total assets

#### Signatures

Gothenburg

**Dr Yuan Shen** Chairman of the Board

**Joe Zhang** Board member

**Tihua Huang** Board member

Marko Borg Peltonen Union representative Michael Fleiss Managing Director and Board member

**Yong Dai** Board member

**Joakim Dahlin** Union representative

Our audit report has been submitted

Niclas Åberg, Deloitte AB Authorized public accountant



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