Zeppelin GmbH

Headquarters
Graf-Zeppelin-Platz 1
85748 Garching bei München
Phone +49 89 320 00 - 0
Fax +49 89 320 00 - 482

Company headquarters
Graf-Zeppelin-Platz 1
88045 Friedrichshafen
Phone +49 7541 202 - 02
Fax +49 7541 202 - 1210

zeppelin@zeppelin.com
zeppelin.com

2021
ANNUAL REPORT

zeppelin.com

ZEPPELIN®
WE CREATE SOLUTIONS

AT A GLANCE

	2021	2020	2019	2018	IFRS 2017
SALES					
Construction Equipment Central Europe SBU	1,494	1,373	1,470	1,315	1,210
Construction Equipment Nordics SBU	292	258	n/a	n/a	n/a
Construction Equipment Eurasia SBU	642	494	500	482	412
Rental SBU	576	528	509	473	410
Power Systems SBU	437	407	392	360	341
Plant Engineering SBU	340	306	332	348	323
Total for the Group [1]	3,696	3,272	3,118	2,897	2,622
EMPLOYEES					
Average for the year, (FTEs) including trainees					
Construction Equipment Central Europe SBU	3,000	2,949	2,914	2,775	2,687
Construction Equipment Nordics SBU	667	603	588	n/a	n/a
Construction Equipment Eurasia SBU	1,981	1,906	1,872	1,792	1,673
Rental SBU	1,811	1,769	1,651	1,487	1,336
Power Systems SBU	1,057	1,044	1,022	849	823
Plant Engineering SBU	1,614	1,622	1,529	1,468	1,366
Total for the Group [1]	10,458	10,170	9,748	8,502	8,004
FIXED ASSETS [2]					
Additions	382.5	368.6	466.9	356.4	373.3
Changes in consolidated companies	6.9	0.5	74.7	4.8	0.0
Depreciation	250.5	241.6	213.7	192.9	181.6
as percentage of additions,	65	66	46	54	49
of which rental assets					
• Additions	289.0	265.7	333.3	263.8	283.8
• Changes in consolidated companies	5.6	0.0	1.7	0.3	0.0
• Depreciation	162.1	156.5	144.9	132.5	125.3
NET PROFIT BEFORE TAX	159.5	124.6	133.7	130.8	97.7
NET GROUP INCOME	118.0	91.5	92.4	90.0	63.0
CASH FLOW [3]	240.1	259.6	75.4	81.5	47.8
EQUITY	1,009.3	890.0	845.4	771.4	696.4
• of which subscribed capital	100.0	100.0	100.0	100.0	100.0
• of which capital reserves	60.0	60.0	60.0	60.0	60.0
• of which retained earnings	858.4	759.5	688.3	614.8	536.7
• of which accumulated other comprehensive income	-23,0	-41,3	-12,8	-10,8	-6,3
• of which shares held by non-controlling interests	13.9	11.7	9.9	7.3	6.0

SBU: Strategic business unit

[1] including Zeppelin GmbH, Accelerent GmbH, Z Lab GmbH and Klickparts GmbH
[2] Financial assets, companies valued according to the equity method, intangible assets, and property, plant and equipment
[3] Cash flow from operating activities (IFRS)

CONTENTS

THE GROUP MANAGEMENT BOARD — 4
MANAGEMENT BOARD REPORT — 6
THE SUPERVISORY BOARD — 14
SUPERVISORY BOARD REPORT — 16
ZEPPELIN WORLDWIDE — 20
GROUP OVERVIEW — 22
STRATEGIC BUSINESS UNITS — 24
PRODUCT INNOVATION — 52
CORPORATE SOCIAL RESPONSIBILITY — 54
ORDER SUCCESSES — 56
ZEPPELIN AS AN EMPLOYER — 58
GROUP TOPICS FOR 2021 — 60
KEY PERSONNEL FIGURES — 62
GROUP MANAGEMENT REPORT & GROUP FINANCIAL STATEMENTS — 66

THE GROUP MANAGEMENT BOARD

PETER GERSTMANN
Chairman of the Management Board of Zeppelin GmbH

- Group Development, IT and Innovation, Digital Business, Auditing and Corporate Communications
- Responsible for the Plant Engineering and Construction Equipment Eurasia strategic business units
- Degree in Business Administration
- Member of the Management Board of Zeppelin GmbH since 2007 and Chair since 2010

MICHAEL HEIDEMANN
Vice Chairman of the Management Board of Zeppelin GmbH

- Sales, Marketing, and Service
- Responsible for the Construction Equipment Central Europe, Construction Equipment Nordics and Rental strategic business units
- Industrial manager
- Member of the Management Board of Zeppelin GmbH since 2000 and Vice Chairman of the Management Board of Zeppelin GmbH since 2010

ALEXANDRA MEBUS
Managing Director of Zeppelin GmbH/Labor Director

- HR and HR Development, Compliance and Data Protection, Diversity
- Master of Business Administration, degree in Social Education
- Member of the Management Board of Zeppelin GmbH since 2018

CHRISTIAN DUMMLER
Managing Director of Zeppelin GmbH / CFO

- Finance, Controlling, Real Estate Management, Law, Corporate Social Responsibility
- Responsible for the Power Systems strategic business unit
- Certified banking specialist
- Member of the Management Board of Zeppelin GmbH since 2011

"Providing all the usual services for our customers and ensuring the health and safety of our employees' workplaces continued to be a top priority during the ongoing pandemic. In doing this, we continuously optimized existing business and work processes so we could continue to respond flexibly, quickly and reliably to the needs of our customers and business partners."

Peter Gerstmann

MANAGEMENT BOARD REPORT

DEAR CUSTOMERS, PARTNERS, EMPLOYEES, AND READERS, [1)]

Despite the ongoing pandemic and sometimes difficult political conditions in certain markets, as well as delivery delays due to disrupted supply chains worldwide, the Zeppelin Group was able to significantly increase its sales and earnings in the 2021 financial year compared with the previous year. Sales increased by more than 10% to EUR 3.7 billion, and earnings before taxes increased by approximately 28% to EUR 160 million. All strategic business units (SBUs) continued on a successful course and were able to positively contribute to the upward trend in sales and earnings. The construction, mining, chemical and food industries, which are the main drivers of our sales markets, experienced notable recovery in the 2021 financial year after some significant declines in the previous year, and also offer good prospects

for the coming year. In addition, with a record order backlog standing at more than EUR 1.769 million, a solid foundation has been laid for the 2022 financial year. This success is attributable to the enormous commitment, flexibility and tireless dedication of all Zeppelin Group employees worldwide. In recognition of this outstanding performance, which was achieved under the exceptional pressures of the COVID-19 pandemic, the Zeppelin Group awarded all employees worldwide a COVID-19 bonus for the 2020 and 2021 financial years, in May and December 2021 respectively.

Strategic focus of the Group

During the ongoing pandemic, providing all the usual services for our customers while also ensuring the health and safety of our employees' workplaces continued to be our top priority. In doing so, we continuously optimized existing business and work processes in order to continue to respond flexibly, quickly and reliably to the needs of our customers and business partners.

[1)] To aid readability, the male and female pronouns are not used in every case. All personal pronouns should be understood as gender-neutral.

Strict occupational health protection and hygiene concepts, mobile working and virtual communications characterized the everyday working life of employees during the pandemic.

In spring 2021 we hosted a digital Virtual Management Summit (#VMS21) with the slogan, "Simply the Best – Ready for an Innovative and Sustainable Future"; more than 450 Zeppelin Group managers worldwide attended to discuss the Group's strategy and focus. With restrictions on travel, we also utilized regular virtual town hall meetings to maintain communications with Group employees and ensure they could stay informed.

Construction Equipment Central Europe

The construction equipment market in Central Europe recovered very quickly from the effects of the COVID-19 pandemic which enabled us to achieve strong sales growth. Zeppelin was able to consolidate its market position in Germany and Austria at a high level. Order entries developed positively in all countries. State subsidy programs in Austria and the Czech Republic made a positive contribution to the healthy business development.

Among the many orders we have succeeded in winning, one warrants a special mention, for the supply of a larger fleet to use at the vast Kühtai hydroelectric power plant construction site in Austria. The general need for infrastructure modernization, as well as climate-change-related investments to promise a continued positive market environment.

Construction Equipment Nordics SBU

The construction industries in Sweden and Denmark also recovered better than expected from the impact of the COVID-19 pandemic, growing at double-digit percentage rates compared to 2020. Drivers of this included residential construction, but also the high demand worldwide for raw materials, which has provided a boost to the mining business in Sweden in particular. Due to market growth and better market positioning, the strategic business unit was able to significantly increase sales compared with the previous year. Since we took over the Northern Europe distribution and service territories for our partner Caterpillar at the beginning of 2020, we have been concentrating on expanding the service offering there. Together with Caterpillar, the "Service Excellence" project has been launched in order to sustainably improve the quality and scope of the service solutions offered to customers.

The business in Greenland is progressing particularly well, fueled by the acquisition of large-scale infrastructure expansion projects. Greenland's wealth of natural resources means that plenty of business opportunities can be expected in the future.

Construction Equipment Eurasia

Gross domestic product in our distribution and service territories in Russia, Ukraine and Uzbekistan developed positively. Despite ongoing sanctions, Russia has shown steady growth in areas not dependent on Western imports, as well as its own oil and gas exports. Nevertheless, the geopolitical situation in Russia, Belarus and Ukraine is a particular risk factor and one which is growing.

The rising demand for raw materials and building materials, as well as government investment in infrastructure in Eurasia, triggered high demand for new construction, agricultural and forestry machinery as well as spare parts and services, resulting in a significant increase in sales. Zeppelin has also made investments in the region, to enable it to offer customers the necessary solutions to meet rising market requirements. For example, additional 24/7 servicing teams, spare parts warehouses, training centers and repair capabilities have been added to expand local customer facilities. The Petrosawodsk/Russia Component Repair Center (CRC) was expanded and the construction of a new CRC was started in Uzbekistan. With regard to the military escalation between Russia and Ukraine and its consequences, we expect a significant decline in business volume for 2022 and cannot rule out the discontinuation of business segments in Russia and Ukraine.

Zeppelin Rental

The market for the rental of construction machines and equipment has also grown thanks to favorable market conditions.
The Rental SBU was able to consolidate its strong market position within this environment, and to increase sales in all countries.

Following the successful acquisition in Germany and Sweden of Energyst, a mobile power generation and temperature control solutions rental company, the companies were integrated into Zeppelin Rental GmbH and Zeppelin Sverige AB respectively.

The growth strategy pursued in electrical construction site equipment was confirmed by the commissioning of the 10,000th power distributor. To create even more added value for customers, the SBU has enhanced its digital offering with e-procurement, the Rental+ machine-as-a-service solution, and various construction logistics tools.

The Rental SBU continues to work on a comprehensive expansion of the integrated range, with a stronger focus on growth outside Germany. Our customers are more and more able to access our sustainable and climate-friendly services such as the green ecoRent line, which celebrated its tenth anniversary in 2021.

Power Systems

Following the severe pandemic-related slump in core markets in 2020, for example in the cruise ship market, they were able to get back onto a growth footing in 2021. Drivers for increased sales included a strong performance in the service business and the resumption of new engine sales to our OEM customers. In addition to Germany, market developments in Russia, Denmark and Ukraine in particular contributed to the positive trend. High willingness to invest in local energy solutions created a solid business foundation. Demand for marine engines increased due to increasing regulation connected with decarbonization. Though there was good demand in the OEM segment, it was not possible to completely fulfill this due to selective supply bottlenecks.
Our manufacturer partner Caterpillar announced that it would discontinue building the new medium-speed MaK engines from the end of 2022, and that it would focus exclusively on its aftersales service in future. The SBU has adapted

accordingly and will continue to provide full servicing of MaK engines. In preparing for the future challenges of declining combustion engine sales and the need for new drive solutions, the Power Systems SBU relies not only on close collaboration with Caterpillar, but also on partnerships in fuel cell technology. Furthermore, we will be offering gas engines for combined heat and power generation used in local combined heat and power (CHP) plants that can be operated with up to 100% hydrogen. High utilization in the engine and service business, along with a high order backlog, mean the Power Systems SBU can look positively towards 2022.

Plant Engineering

After the previous year's low order entry due to the pandemic, the Plant Engineering SBU was able to more than compensate in 2021, achieving the highest order entry in the company's history. Drivers here included a backlog of contracts in all business areas in China and the USA, but also the opening up of new markets for the processing of battery compounds for e-mobility and the construction of malt plants in Brazil.

The market for polyolefins recovered steadily over the course of the year, with China becoming the most important country in the plastics industry. Project growth in the rubber sector remained subdued, though the first signs of recovery are already evident. Plastics recycling and the automotive industry battery market were the main drivers of business success in the performance materials segment. In the food market, Zeppelin in Brazil has already received the second order for construction of one of the largest malt production plants in the world.

However, supply bottlenecks and steep rises in raw material prices are affecting the silo business and supply of electronically supported components, resulting in only moderate sales growth in 2021. On the other hand, due to very good order entry levels, the SBU starts the new financial year with a record order backlog. By acquiring a majority stake in Magdalena Kitzmann GmbH (effective from January 1, 2022), Zeppelin also secured further market share in PVC plants and chemicals.

Zeppelin Digit

The Zeppelin Digit Strategic Management Center (SMC) supports the digitization of internal processes in close collaboration with the SBUs. The focus of this work has been on harmonizing the heterogeneous digital tool landscape, including through expansion of the digital workplace with Microsoft 365 as the central platform. The standardization of our process landscape took a significant step forward with go-live of the Workday global HR software. The Z ONE SAP project continued the gradual introduction of SAP into the individual Group companies; the technical upgrade from SAP to S/4 HANA began in Austria in 2021. In the area of CRM tools, Zeppelin is also working on a Group-wide solution based on Salesforce, and has launched an initial implementation project within Zeppelin Rental GmbH. In order to counter risks from the still-precarious cybersecurity situation, we moved forward with expansion of the global information security management system (ISMS) and installed appropriate protection and monitoring software.

In our Z LAB in Berlin, we continued to develop new business models and in some cases brought them to market maturity. The successful products klickrent (a digital rental platform for construction technology) and klickcheck (an app facilitating the fast, smooth handover of construction equipment) were spun off into Accelerent GmbH so they could be more quickly scaled up in the market.

Zeppelin as an employer

With the successful global introduction of the Workday HR software, we have significantly enhanced transparency in our HR management processes, while also standardizing and digitizing core processes worldwide. In the areas of activity where it is possible, work has become largely flexibilized. Zeppelin's "New Work" project is a response to new requirements in the ever-changing world of work and seeks to adapt general conditions accordingly. Apart from modern working conditions, it also focuses on considerations such as the continued development of our fundamental leadership principles. Bringing the principles of trust, effectiveness, innovation, appreciation and motivation to the fore, our leadership standards were recalibrated and presented to the Group for the first time at the virtual strategic management summit in spring.

We put a spotlight on the issue of Diversity & Inclusion, for example with the "We are Colourful – Diversity in the Company" action week, during which we held a whole series of digital events.

Zeppelin received various awards in 2021 which are synonymous with sustainable employer attractiveness, from Handelsblatt, F.A.Z. and Stern, as well as the "auditberufundfamilie" certificate.

Corporate Social Responsibility

Zeppelin made sustainability a focus of its strategy again in 2021. With the intention of becoming a company which is CO_2-neutral in ongoing business operations by 2030, and to support significantly reduced waste and water consumption, a EUR 120 million program of comprehensive investment has been approved to modernize the owned real estate over the next ten years. The company has additionally invested in a number of sustainability projects in 2021, installed photovoltaic (PV) systems at several sites, initiated the switch to electromobility, and required building renovations to undergo an environmental conversion assessment. The Sustainability Report was also published in English for the first time in 2021. As part of our Z IDEA idea management program, we launched the "Zeppelin's ecological footprint" and "We are Zeppelin – we are diversity" campaigns and received a huge number of ideas, many of which are being put into practice and some of which received an award. As part of our commitment to social and humanitarian causes, Zeppelin donated EUR 100,000 for the victims of the flood disaster in the Ahr Valley and provided paid time off for volunteers to help with clean-up works.

Compliance

In 2021 we used online and face-to-face training courses to further improve our employees' awareness of compliance issues and to make them aware of our fundamental stance on achieving full compliance. Zeppelin has also developed a comprehensive Supplier Code of Conduct, which applies to collaboration worldwide and is being rolled out gradually.

Finance

In the financial sector, we focused on further digitization of finance and financial controlling processes, and on ensuring tax compliance in an increasingly complex global environment. Furthermore, a new promissory note loan was very successfully placed on the market, and for the first time included an ESG condition.

In 2021, Creditreform Rating AG once again rated the Zeppelin Group above average with an "A" rating and a "stable" outlook. As such the rating agency confirms our high creditworthiness, which is well above the industry average, as well as solid financial position in a difficult pandemic and geopolitical environment. The Group's efforts in the area of sustainability were also considered in the assessment for the first time.

Investments

Zeppelin invested in new branch construction in 2021, including in Eschweiler, Bratislava, Kyiv, and Gothenburg. All building work has been carried out in compliance with strict sustainability requirements, and as such is in line with the Group's strategic objectives. Moreover, we have channeled investment into expanding our IT infrastructure, for example with Workday, SAP and Salesforce, as well as various collaboration tools and IT security. Rental fleets were augmented based on high demand, and parts of the service vehicle fleet were regularly renewed. The total investment volume in 2021 was EUR 248.7 million.

Changes to the Supervisory Board

The Supervisory Board of Zeppelin GmbH changed due to scheduled rotation on August 1, 2021. We were able to recruit Dr. Kristin Neumann to be Employer Representative as successor to Prof. Horst Wildemann. Ms. Carolin Winkel was elected to the committee as a Representative of Senior Management, replacing Ms. Rowita Feineis.

Outlook

On behalf of our manufacturing partner Caterpillar, Zeppelin will be responsible for the organization and alignment of the bauma trade fair, which will take place in October 2022. While several construction equipment manufacturers have chosen not to exhibit at bauma due to the uncertain pandemic situation, Zeppelin made a conscious decision, for its customers' benefit, to be present at the world's largest trade fair for the construction industry.

The military escalation between Russia and Ukraine and the already known and expected sanctions imposed by the USA and the EU against Russia will severely affect Zeppelin's business in both countries.

We expect a significant decline in business volume in the Eurasian region. In the worst-case scenario, the discontinuation of business segments and the loss of assets in Russia and Ukraine cannot be ruled out. Further risks could arise from a possible trade war between China and Western states.

We expect a sharp decline in sales and earnings before taxes for the 2022 financial year.

In terms of Zeppelin's further distribution and service territories: In spite of a shortage of specialist skills, disrupted supply chains and the expectation of further price increases, we are confident about the future.

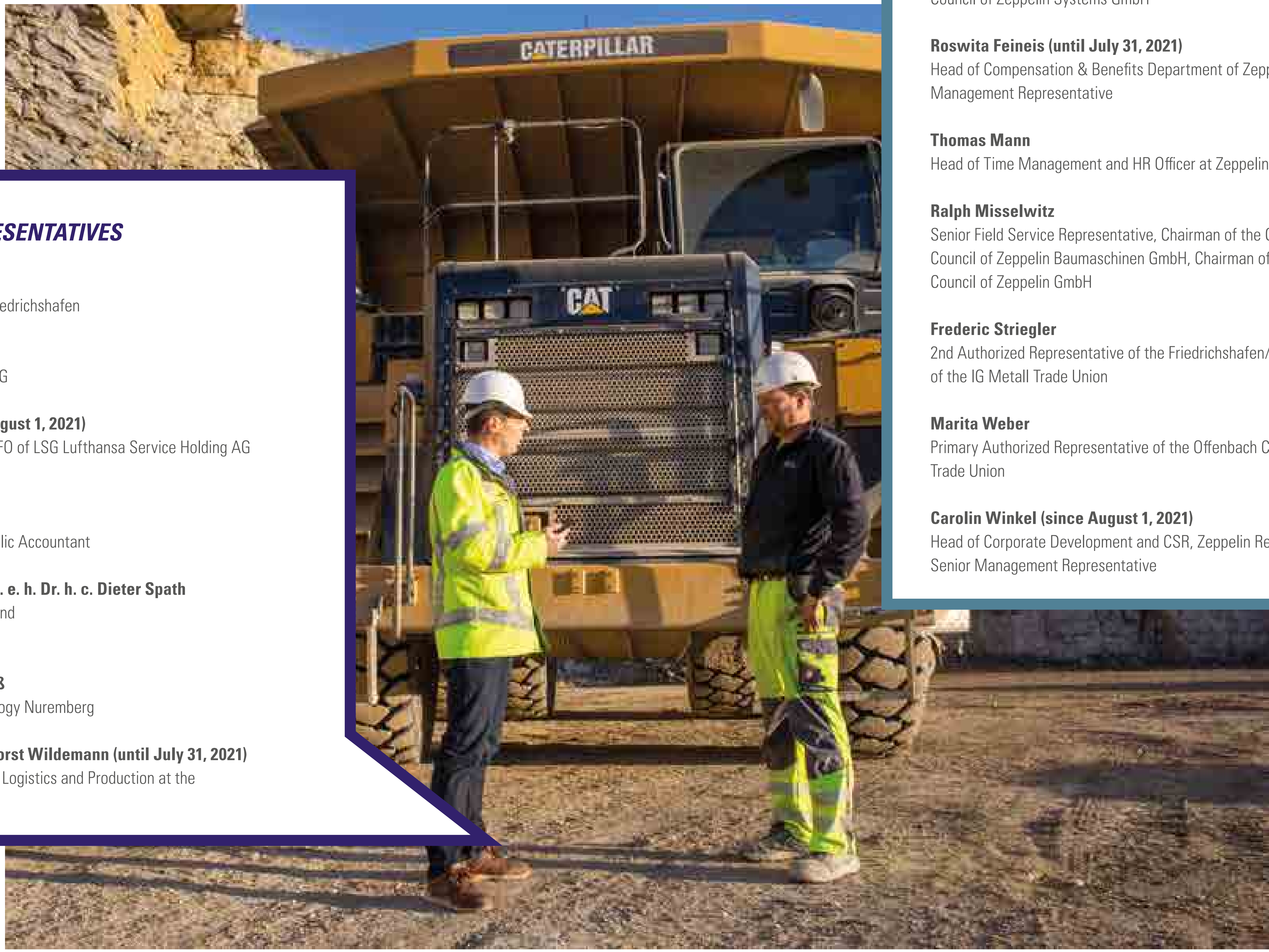
Germany has a major challenge ahead in terms of expanding and renovating its infrastructure. The increasing trend towards electromobility necessitates the expansion of power lines, while climate-aligned adaptation will involve materials that need to be moved. Exploiting the renewable energies of the future will not be possible without infrastructure, which is why we are expanding our portfolio with hybrid solutions and electrified products. Zeppelin will exhibit a selection of electrified Caterpillar construction equipment at bauma 2022. For Rental the focus is on temporary solutions with low-CO_2 equipment. In Plant Engineering, we are specifically investing in recycling solutions for plastics and car tires, and will continue to develop this area to tackle the processing of materials in battery production. All in all, our products and services are well equipped for future challenges.

On behalf of the Management Board of Zeppelin GmbH, I would like to thank our customers for their trust in our services, which is what has made it possible for us to achieve success in a difficult environment.

We would like to particularly thank all Zeppelin employees for their passion and loyalty in these extraordinary times. Our thanks also go to the Employee Representatives for their support, and our shareholders and Supervisory Boards for their trust in us.

PETER GERSTMANN
Chairman of the Management Board of Zeppelin GmbH

THE SUPERVISORY BOARD



SHAREHOLDER REPRESENTATIVES

Andreas Brand
Chairman, Mayor of the City of Friedrichshafen

Dr. Reinhold Festge
Partner in HAVER & BOECKER OHG

Dr. Kristin Neumann (since August 1, 2021)
Supervisory Board member and CFO of LSG Lufthansa Service Holding AG (LSG Holding)

Dr. Werner Pöhlmann
Lawyer, Tax Adviser, Certified Public Accountant

em. Univ.-Prof. Dr.-Ing. Dr.-Ing. e. h. Dr. h. c. Dieter Spath
President and CEO of TÜV Rheinland
Berlin Brandenburg Pfalz e.V.

Prof. Dr. Yasmin Mei-Yee Weiß
Professor at University of Technology Nuremberg

Univ.-Prof. Dr. Dr. h. c. mult. Horst Wildemann (until July 31, 2021)
Chair for Corporate Management, Logistics and Production at the Technical University of Munich

EMPLOYEE REPRESENTATIVES

Heribert Hierholzer
Vice Chairman, Production Foreman and Chairman of the General Employee Council of Zeppelin Systems GmbH

Roswita Feineis (until July 31, 2021)
Head of Compensation & Benefits Department of Zeppelin GmbH, Management Representative

Thomas Mann
Head of Time Management and HR Officer at Zeppelin Baumaschinen GmbH

Ralph Misselwitz
Senior Field Service Representative, Chairman of the General Employee Council of Zeppelin Baumaschinen GmbH, Chairman of the Group Employee Council of Zeppelin GmbH

Frederic Striegler
2nd Authorized Representative of the Friedrichshafen/Upper Swabian Chapter of the IG Metall Trade Union

Marita Weber
Primary Authorized Representative of the Offenbach Chapter of the IG Metall Trade Union

Carolin Winkel (since August 1, 2021)
Head of Corporate Development and CSR, Zeppelin Rental GmbH; Senior Management Representative

SUPERVISORY BOARD REPORT

ANDREAS BRAND
Chairman of the Supervisory Board of Zeppelin GmbH

CHAIRMAN OF THE SUPERVISORY BOARD OF ZEPPELIN GMBH

It has been another challenging yet very good year. COVID-19 shaped and influenced business at the beginning of the year.

We were again able to safeguard our ability to deliver and act for our customers, and to protect the health of our employees. With geopolitical uncertainties and world trade conflicts on the one hand, as well as restrictions on the availability of equipment, engines, components and raw materials on the other, prevailing conditions presented extra challenges and limited the growth of the Zeppelin Group. Operational management focused on the successful integration of earlier acquisitions, the continuation of digitization projects, implementation of the sustainability strategy, and optimization of the product and service portfolio.

In 2021 almost all markets relevant to Zeppelin bounced back from the declines of the previous year, and in some cases achieved high rates of growth . The Zeppelin Group benefited from the favorable market environment, and was able to end a very successful 2021 with significant growth in sales and earnings.

In the 2021 financial year, the Supervisory Board performed all its duties pursuant to the law, the articles of incorporation, and the rules of procedure with due care and diligence. In doing so, the option was exercised to hold some meetings on a virtual basis, in accordance with the articles of incorporation and in the interest of protecting all parties involved.

The Supervisory Board continuously monitored the work of the Management Board, while providing advice about the management of the company, strategic development and key individual topics. The Management Board promptly and directly involved the Supervisory Board on all issues and decisions of fundamental relevance.

In addition, the Chairman of the Management Board and the entire Management Board also updated the Chairman of the Supervisory Board and his representatives outside board meetings on current developments and material processes.

All members of the Supervisory Board were punctually and extensively informed in writing on a monthly basis about the performance of the Zeppelin Group. The prime objective was to ensure successful long-term development of the Zeppelin Group in collaboration with the Management Board. The Supervisory Board and the Management Board work together in a way that is open, responsible, and constructive.

The focus of reporting and consulting in the 2021 financial year was on economic development and the effects of the COVID-19 pandemic, strategic development and key Group-wide projects. Smaller acquisition projects and changes in corporate law were also discussed.

In three scheduled meetings, the Supervisory Board advised on the company's development on the basis of documents, reports and presentations regarding the company's strategy, planning, acquisition and investment projects, financial performance, financial position and cash flows, as well as the quarterly risk, compliance and data protection report, the group auditing department's report and reporting related to the integration of acquisitions. The corporate, investment and financial plans for 2022 were discussed in detail, along with forecasts for 2023 and 2024.

The Personnel and Audit Committee performed the duties assigned to it by law and the articles of incorporation. In its four meetings it dealt with key issues of corporate development and strategy, fundamental issues of corporate policy, accounting, auditing, internal control and reporting systems, and also addressed the economic and financial situation of the company on a regular

basis. Regulatory developments most relevant to Zeppelin were the subject of the consultations. One priority was preparation for Supervisory Board meetings about HR topics, in particular the appointment of managing directors, succession planning, and HR development within the Group. The Committee regularly considers questions surrounding the appropriateness of Management Board remuneration.

After proper consideration and consultation with the Management Board, a number of projects and measures were recommended to the Supervisory Board for consultation and resolution. These consisted mainly of planned acquisitions, corporate law changes in Group companies, financial and investment plans for the 2022 financial year, and measures to enhance the portfolio.

Resolutions were also passed concerning the appointment and reappointment of managing directors at affiliated companies based on the relevant recommendations of the HR committee.

The Supervisory Board advised on strategies and measures for the development and expansion of new business segments; recruitment, retention, and training of employees; development of the Group-wide finance, risk and compliance management system; the sustainability strategy; and the status of other important strategic projects.

The activities of the Supervisory Board and in particular its monitoring of the Management Board did not give rise to any complaints.

The annual financial statements of Zeppelin GmbH prepared by the Management Board pursuant to the provisions of the German Commercial Code (Handelsgesetzbuch, "HGB") and the Group Financial Statements prepared in accordance with the basic principles of the IFRS pursuant to Section 315e HGB for the year ending December 31, 2021, and the relevant management reports, were audited by PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft (PwC), who issued an unqualified Auditors' Statement.

The Supervisory Board engaged with the documents in detail and also reviewed them itself. The audit reports were provided to all members of the Supervisory Board in a timely manner for this purpose. In due time before the Supervisory Board's accounts review meeting, PwC and members of the Supervisory Board met twice to discuss the details, key points, and findings of the year-end audits. The Personnel and Audit Committee has engaged with this in detail together with the auditor.
During the accounts review meeting of the Supervisory Board on March 24 2022, PwC explained the key results of the audit, and these were then discussed in detail with PwC present. The Supervisory Board did not raise any objections, approved the report, and at the same time approved the financial statements of Zeppelin GmbH and the Group Financial Statements.

The financial statements were thereby adopted. The Supervisory Board approved the Management Board's proposal concerning the appropriation of net profit and recommended that the shareholders also approve this.

On April 28 2021, new representatives of employees, senior management, and trade unions were selected for the Supervisory Board of Zeppelin GmbH due to scheduled rotation. In the course of these new appointments, Ms. Carolin Winkel was elected to the Supervisory Board in place of Ms. Roswita Feineis, who had been on the Supervisory Board for many years and did not stand for re-election for personal reasons.

On the capital side, long-standing member Prof. Horst Wildemann resigned from the Committee. Dr. Kristin Neumann was newly appointed to the Supervisory Board by the shareholders' meeting. The inaugural meeting of the Supervisory Board of Zeppelin GmbH took place on July 30 2021. The Supervisory Board would like to thank Ms. Roswita Feineis and Prof. Horst Wildemann for their many years of exceptional and highly successful service to the company, and is very much looking forward to working with Dr. Kristin Neumann and Ms. Carolin Winkel.

The Personnel and Audit Committee has been expanded from four to six members. Dr. Kristin Neumann and Mr. Thomas Mann were newly appointed to the committee. This new Personnel and Audit Committee met for the first time on November 18 2021.

The dedication and exceptional commitment of all Zeppelin employees worldwide have made the Zeppelin Group's continued success possible in the past financial year. We would like to offer our thanks, respect and appreciation for all their efforts.

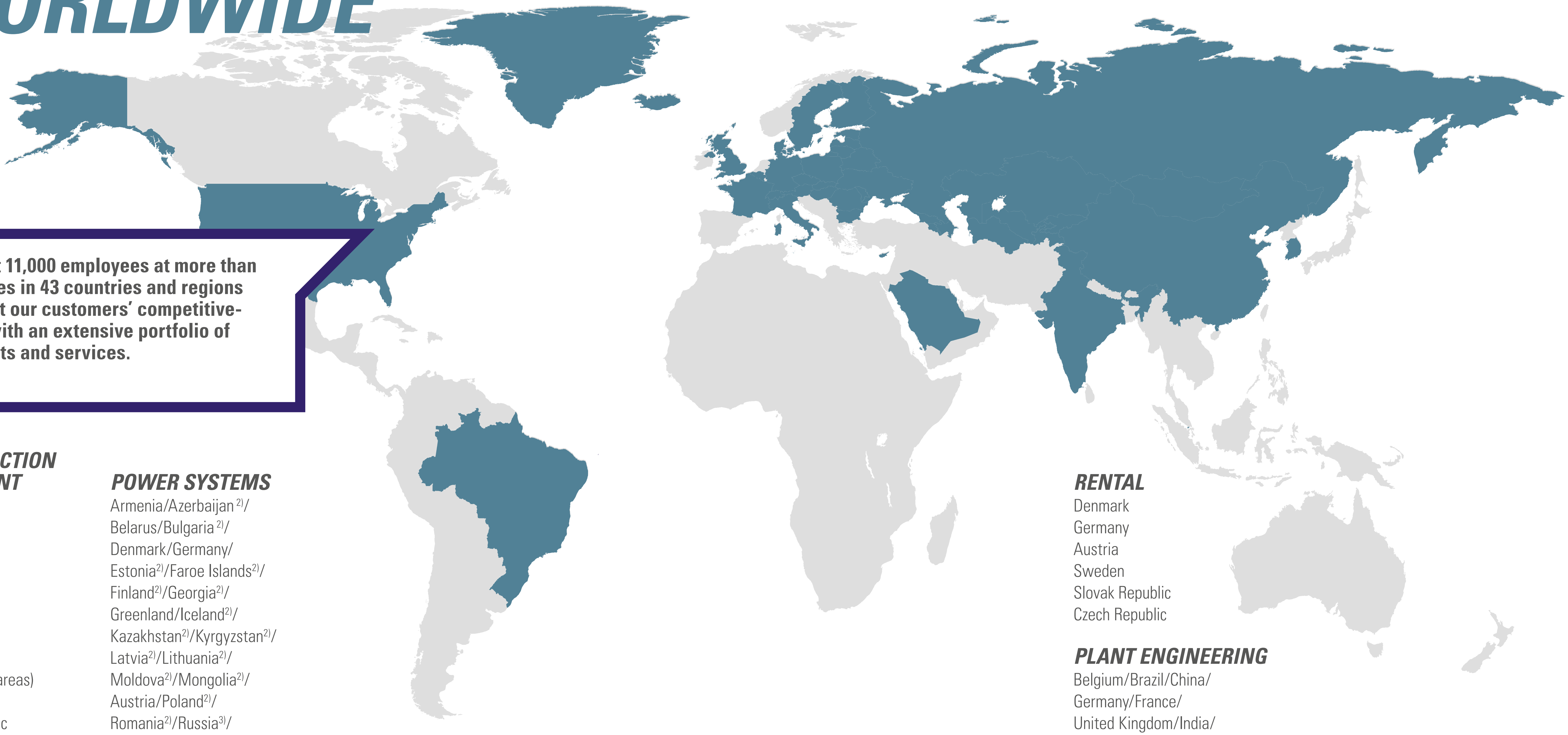
Friedrichshafen, March 24 2022

On behalf of the Supervisory Board

Andreas Brand

ANDREAS BRAND
Chairman

ZEPPELIN WORLDWIDE



Almost 11,000 employees at more than 340 sites in 43 countries and regions support our customers' competitive-ness with an extensive portfolio of products and services.

CONSTRUCTION EQUIPMENT

Armenia
Belarus
Denmark
Germany
Faroe Islands
Greenland
Austria
Poland[1]
Russia (some areas)
Sweden
Slovak Republic
Tajikistan
Czech Republic
Turkmenistan
Ukraine
Uzbekistan

POWER SYSTEMS

Armenia/Azerbaijan[2]/
Belarus/Bulgaria[2]/
Denmark/Germany/
Estonia[2]/Faroe Islands[2]/
Finland[2]/Georgia[2]/
Greenland/Iceland[2]/
Kazakhstan[2]/Kyrgyzstan[2]/
Latvia[2]/Lithuania[2]/
Moldova[2]/Mongolia[2]/
Austria/Poland[2]/
Romania[2]/Russia[3]/
Sweden/Switzerland[2]
Slovak Republic/
Tajikistan/Czech
Republic/Turkmenistan/
Ukraine/Hungary[2]/
Uzbekistan/Cyprus

RENTAL

Denmark
Germany
Austria
Sweden
Slovak Republic
Czech Republic

PLANT ENGINEERING

Belgium/Brazil/China/
Germany/France/
United Kingdom/India/
Italy/Russia/
Saudi Arabia/Singapore/
South Korea/USA

[1] Hyster forklifts / Manitou material handling equipment / Groupil electric vehicles / Grove mobile cranes / Meclift container movers / Kamag swap-body transporters and terminal tractors only

[2] Distribution and service territories for MaK engines only

[3] Distribution and service territories for MaK engines; for Cat engines central, northwestern and southern Russia only

GROUP OVERVIEW

The Zeppelin Group offers solutions in the construction industry, drive and energy systems, as well as engineering and plant engineering. The Group provides customers with expertise in a number of areas, from the distribution and service of construction, mining, forestry and agricultural machinery, through rental and project solutions for the construction industry and industry as a whole, to drive and energy systems as well as engineering and plant engineering, and enhances its offering with digital capabilities in all areas. Zeppelin is represented at more than 340 sites in 43 countries and regions worldwide. In the 2021 financial year, the Group had almost 11,000 employees and generated sales of EUR 3.7 billion. The Group organizes its activities into six strategic business units (Construction Equipment Central Europe, Construction Equipment Nordics, Construction Equipment Eurasia, Rental, Power Systems, Plant Engineering) and the Zeppelin Digit Strategic Management Center. Zeppelin GmbH is the Group holding company. It is legally domiciled in Friedrichshafen and has its head office in Garching bei München.

THE ZEPPELIN GROUP – A FOUNDATION-OWNED COMPANY

Its roots can be traced back to the establishment of the Zeppelin Foundation by Ferdinand Graf von Zeppelin in 1908. The Zeppelin Foundation still owns a direct stake in Zeppelin GmbH, as well as an indirect stake via Luftschiffbau Zeppelin GmbH.

ZEPPELIN FOUNDATION
under the management of the City of Friedrichshafen

90%

3.75%

LUFTSCHIFFBAU ZEPPELIN GMBH
in Friedrichshafen,
Management Board: Jörg Bischof, Thomas Brandt

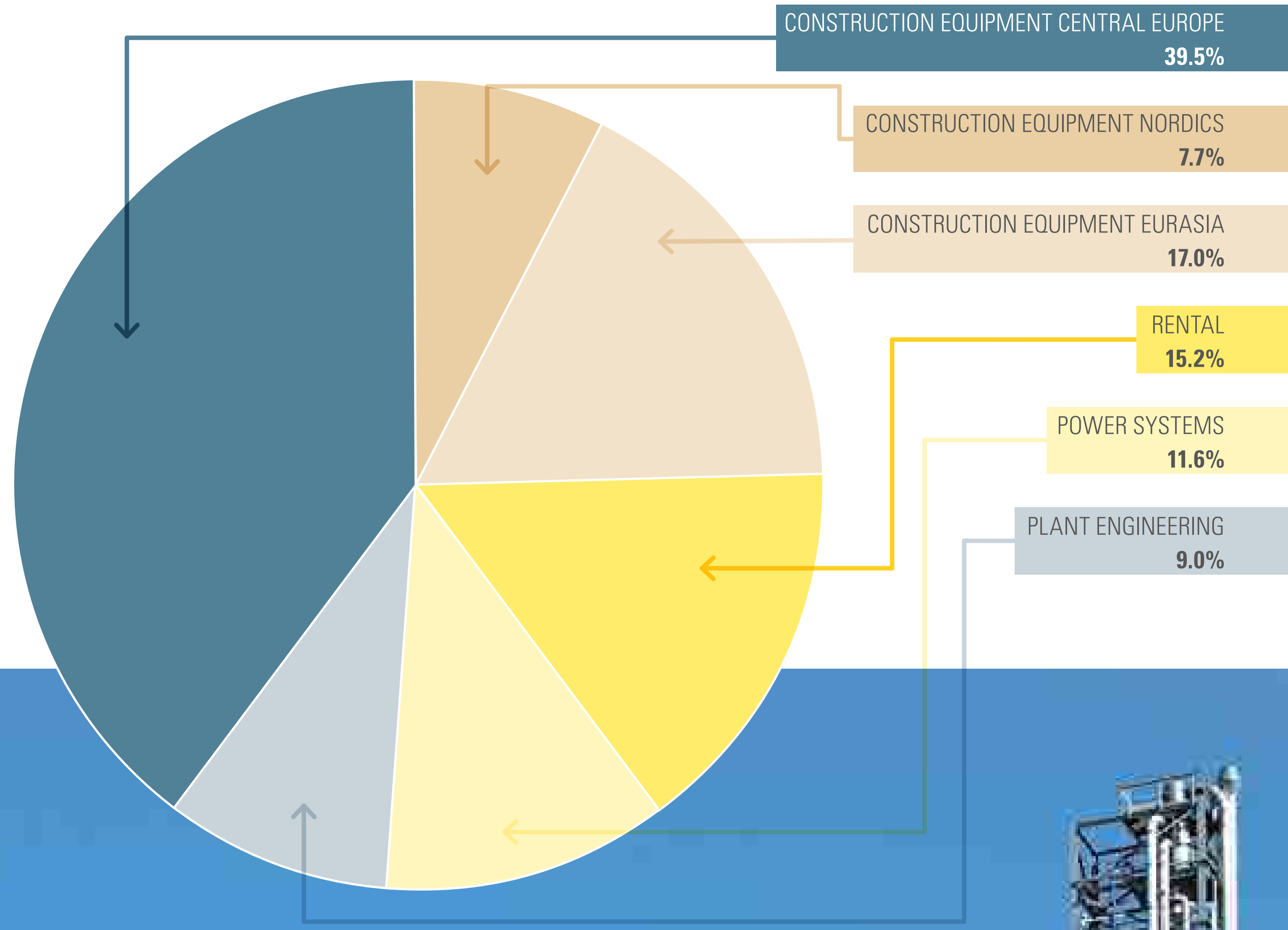
96.25%

10%

ZEPPELIN GMBH
in Friedrichshafen / Garching
Management Board: Peter Gerstmann (Chairman),
Michael Heidemann (Vice Chairman),
Christian Dummler (CFO),
Alexandra Mebus (Labor Director)

[1] Here: Total SBU sales. For calculation reasons, rounding differences of one unit (€, % etc.) may occur in the tables and charts.

SHARE OF GROUP SALES [1]



For more information, visit
https://www.zeppelin.com/de-en/about-us/about-zeppelin/central-europe

CONSTRUCTION EQUIPMENT CENTRAL EUROPE

Distribution and service of construction equipment in Central Europe

"The COVID-19 pandemic continued to have a major impact on our lives in the 2021 financial year, presenting our employees with numerous challenges, especially in the distribution and service of Caterpillar construction equipment. Nevertheless, thanks to a high level of motivation and extraordinary commitment, all services were maintained at all times. Our customers continued to do good business, which was reflected in our high order entry and high machine utilization; our service departments then benefited enormously from this in turn. From the second half of 2021, the impact of the COVID-19 pandemic on global trade became more and more significant, and in some cases led to significant delays in supply chains. These bottlenecks led to rising material and logistics costs, which also had an impact on the price of new construction equipment. Delivery dates had already been postponed by several weeks and months in the 2021 financial year, and in some product groups we were no longer able to deliver at all. As an alternative, we were able to offer our customers young, certified used Caterpillar machines with a manufacturer's warranty (Cat Certified Used). This fueled overall demand in the used machine business at home and abroad."

Fred Cordes
Head of the Construction Equipment Central Europe SBU

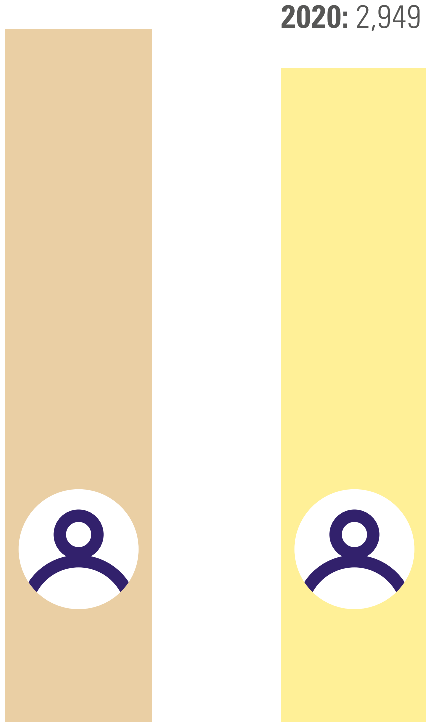
The Construction Equipment Central Europe SBU is the European leader for the distribution and servicing of construction equipment. Its range includes over 200 different types of machine from market leader Caterpillar. The SBU provides customers with powerful earthmoving, excavation of materials, demolition, recycling, and road construction equipment, and also offers machinery for gardening and landscaping, agricultural, and industrial use. The product range is rounded off with special equipment for surface and underground mining, plus fleet management and machine control systems. A dense network of branches, with 70 sites across five countries as well as central spare parts warehouses, guarantees a fast response and quick delivery for customers. The general overhaul of used construction equipment also presents a cost-effective and resource-conserving alternative to buying new. There is a particular emphasis on all-round assistance for customers in the construction industry and the building materials industry, who are offered integrated solutions from seismographic soil analysis to all-inclusive contracts.

SALES
in millions of euros / in accordance with IFRS

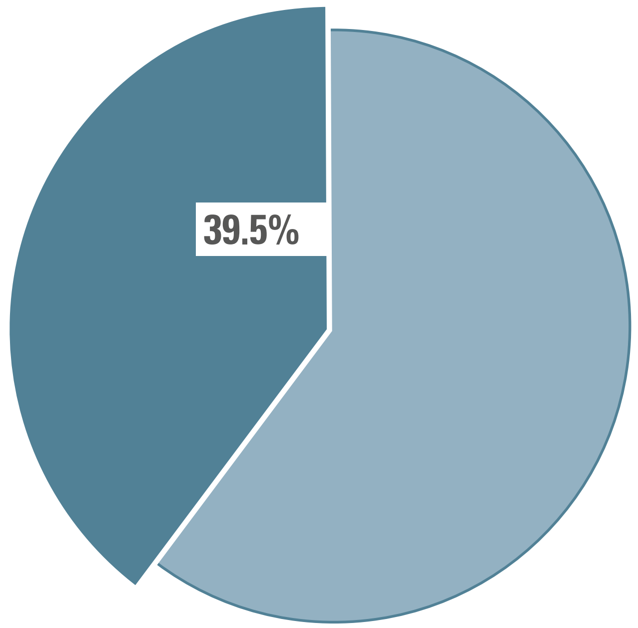
2021: 1,494
2020: 1,373

EMPLOYEES
as an average for the year, including trainees

2021: 3,000
2020: 2,949



SHARE
of Group sales (2021) [1]



[1] Here: Total SBU sales. For calculation reasons, rounding differences of one unit (€, % etc.) may occur in the tables and charts.

REVIEW

The Construction Equipment Central Europe SBU can look back on a successful financial year in which sales and earnings were significantly increased compared with the previous year. The positive trend is due to a significantly faster market recovery since the start of the COVID-19 pandemic, the associated growth in volumes, as well as cost savings arising from the pandemic. State subsidy programs in Austria and Czech Republic made a positive contribution to the upward trend in the construction industry there. Order intake increased in all countries, which contributed to the stability of Zeppelin's market share in Germany and Austria. The Polish market continued to show steady growth in the distribution, service and rental business of the products offered there (Hyster, Manitou, Grove, Meclift). Kamag swap-body transporters and terminal tractors were added to the product portfolio there in 2021. The collaboration has already proven successful, even in the first year. There were impediments experienced in all market sectors, partly due to a lack of availability of construction equipment and vehicles, long delivery times, and rising costs.

A large number of new products were placed on the market in 2021, which significantly enhanced the performance options for our customers. As well as the gardening and landscaping, earthmoving, civil engineering and road construction sectors, and the mining industry, these new products were also aimed at the recycling segment and the waste and disposal industry, which can now be served with an increasingly wide range of machine technology. In the railway and track construction sector, Zeppelin was able to draw more customers in with the concept of the Caterpillar two-way excavator, which combines the benefits of both rail wheel drive and a compact design with short tail.

The Caterpillar product ranges in the mobile excavator, material handler, mini-excavator, tracked excavator (including short-tail excavators for confined applications as well as special excavators) and wheel loader segments have transitioned to new generations almost without exception. The material handler range has been expanded with a new 40-metric-ton model. With a total of 15 different types in the Caterpillar mini excavator segment, Zeppelin now offers solutions that meet the varied needs of its customers. The innovative joystick steering and optional air conditioning features were very well received on the market. The 53-metric-ton Cat 988K XE wheel loader, with its diesel-electric drive system which is unique among wheel loaders, also met with an enthusiastic response. Due to its significantly reduced fuel consumption and associated lower CO_2 impact, the machine has benefited from government subsidies in Germany. Other new models of Cat dozers and Cat rollers including features typical of new-generation Caterpillar machines were also launched. Zeppelin's manufacturer partner Caterpillar has converted its entire product range to a new brand design, featuring a unique and high-impact Cat signet which has been created specifically for the machines and engines.

More digital possibilities were also added for customers in 2021, with examples including the digital construction equipment customer portals in Germany (www.zeppelin-cat.de) and Austria (www.zeppelin-cat.at), launched in an up-to-date, user-friendly design. The proliferation of new-generation Caterpillar machines allows customers to run fault diagnostics and install new system software remotely, which significantly reduces travel and repair times while expediting troubleshooting. Predictive maintenance is also of increasing importance as data become more informative, more accurate and more reliable. With targeted data analyses, customers can know well in advance which components are becoming worn and when they will need to be replaced. The required spare part can be proactively obtained and stored in good time, so a specific repair date can be systematically planned, and maintenance tasks prepared and coordinated to fit with operational requirements and construction site use.

OUTLOOK

bauma, the world's largest trade fair for construction and mining equipment, will take place in Munich from October 24 to 30 2022. Global exhibitors use the event as an opportunity to showcase the latest construction industry trends, products and services to customers from around the world. Zeppelin will also be there, with a wide range of state-of-the-art technology to take construction companies into the future. As in previous years, visitors will be able to visit us in Hall B6 to discover the Group's complete construction equipment portfolio. Trade fair visitors are likely to have high expectations for alternative drive technologies such as electric or hybrid drives, as well as new digital solutions. Caterpillar and Zeppelin will showcase a whole series of relevant innovations at bauma. These include new-generation Caterpillar construction equipment equipped with state-of-the-art assistance systems and technical features that help reduce fuel consumption, such as diesel-electric drive technology and power-split transmissions. Such developments mean Zeppelin is also supporting many companies in the construction industry and building material extraction sector in achieving the ambitious sustainability goals they are setting themselves.

Digitization will also continue to gather pace in 2022. Digital services such as the customer app, product configurator and our "Baggerbörse" online portal for used machines, are also undergoing continuous development. In addition to all this, a new web store for selected compact construction machines, attachments and equipment will go online in Germany in 2022. Expanding the product portfolio for telematics and fleet management is also of crucial importance. Work towards automated construction equipment is advancing, both in the area of machine control via planning data, and in semi-autonomous construction equipment, wherein work is conducted via remote control at a console or control station. In the service area, solutions for added speed and enhanced efficiency continue to gain ground. This includes fault diagnostics and remote installation of new software. Further pilot projects in collaboration with construction companies are planned, with the intention of more precisely identifying customer requirements for networked construction sites, and to meet future customer requirements while providing the best possible support to companies on their digitization journey.

CONSTRUCTION EQUIPMENT NORDICS

Distribution and servicing of construction and mining equipment in Northern Europe

For more information, visit
https://www.zeppelin.com/de-en/about-us/about-zeppelin/construction-equipment-nordics

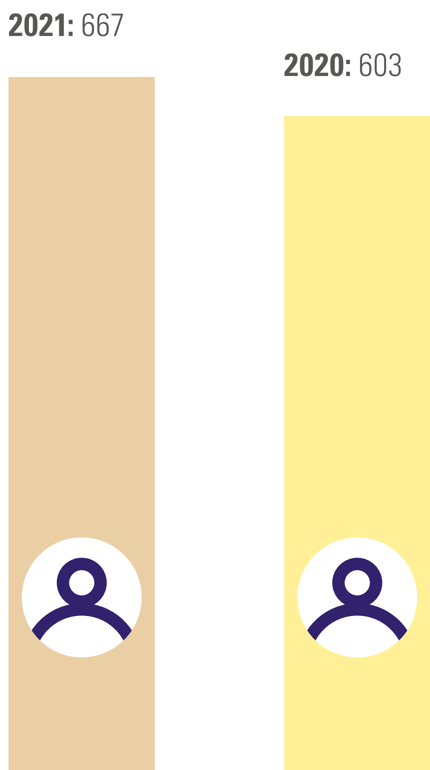
"It was important for us to involve the new employees in all integration processes right from the start, and to introduce them to Zeppelin's values and traditions. The commitment of our workforce, the very early anchoring of Zeppelin values and the accompanying change in corporate culture were the decisive steps towards growth and profitability for Zeppelin in Scandinavia."

Volker Possögel
Head of the
Construction Equipment Nordics SBU

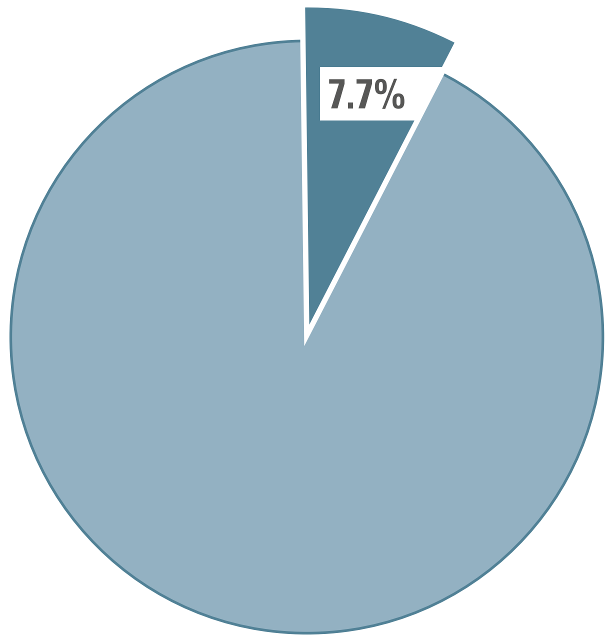
The Construction Equipment Nordics strategic business unit is a reliable partner for the distribution and service of new and used Caterpillar construction machinery and accessories. It offers customized solutions in the fields of earthmoving, excavation of materials, demolition, recycling and road construction, as well as for gardening and landscaping, and forestry. One focus is supporting mining operations in northern Sweden. The products offered in this territory also include special equipment for surface and underground mining, fleet management equipment, machine control systems and other technological solutions. Zeppelin operates a branch network of 13 sites in Sweden, Denmark and Greenland, and has a dedicated Component Repair Center and spare parts warehouses.

SALES
in millions of euros / in accordance with IFRS

EMPLOYEES
as an average for the year, including trainees



SHARE
of Group sales (2021) [1]



[1] Here: Total SBU sales. For calculation reasons, rounding differences of one unit (€, % etc.) may occur in the tables and charts.

REVIEW

Both the Swedish and Danish construction industries recovered more strongly in 2021 than forecast, and they posted significant growth driven in particular by housing construction. The Construction Equipment Nordics SBU recorded an increase in sales and earnings for the Swedish company compared with the previous year. Order entry and backlog in Sweden increased appreciably year-on-year, with the mining business making a particularly positive contribution. Sales in Denmark were at the previous year's level, while order entry and order backlog rose here too. The SBU's positive trend was due in particular to major infrastructure projects focusing on northern Sweden. Of particular note in Denmark was the Fehmarn Belt project.

The service organization has been expanded throughout the SBU, underpinned by the reorganization of service distribution and direct product support to improve efficiency. The equipment product range was also expanded further in 2021. New items were added to the small mobile excavator product portfolio, thanks to a collaboration with Wacker Neuson. The market strategy for Construction Equipment Nordics SBU was confirmed with the receipt of large orders, for instance for the supply of 27 Caterpillar construction machines to the Swedish company DKLBC, and from Wallbergs Åkeri i Hennan AB, the first customer in Sweden to acquire the new Cat 980 XE wheel loader with a power split transmission.

Integration of the Northern Europe distribution and service territories transferred to the Zeppelin Group on January 1 2020 was completed largely successfully during the past financial year. As well as being integrated on the IT side, the SBU has also been included in Zeppelin's global CSR activities right from the start. For example, an ISO 50001 certified energy management system was introduced for Denmark and Sweden in 2021, along with implementation of the requirements to meet the standard. The national subsidiary in Sweden was awarded Silver in the EcoVadis Sustainability Rating. The SBU has taken particular care to familiarize new employees with Zeppelin's guiding principles and to fully incorporate them into the Group. A recent survey that confirmed an increase in employee satisfaction is testament to the success of this approach.

OUTLOOK

The economic conditions for the Construction Equipment Nordics SBU remain very positive. In Sweden, infrastructure investments (rail and road networks, port facilities) and a growing housing construction market are expected to benefit building production, and potentially stimulate growth in the construction equipment industry. The Danish government has an infrastructure plan involving a total investment of approximately EUR 18 billion by 2035. Several projects are scheduled to start in 2022 and 2023, with steady growth expected over the next few years, not only in construction but also in the construction equipment industry.

In Sweden Zeppelin has established itself as a reliable partner for the mining industry in its work towards zero emissions, with Zeppelin and its manufacturer partner Caterpillar offering system solutions and accompanying services in the areas of diesel-electric, trolley and battery drives which form a perfect foundation for achieving these environmental goals. The outlook for mining in Sweden remains very positive due to high copper and stable iron ore commodity prices. Stable long-term service contracts in Sweden, as well as new mining projects in Greenland, offer a solid platform from which to further expand our leading market position and, in Greenland, to establish it.

The extensive application of our vast experience and synergies within the Zeppelin Group are crucial to this.

The Construction Equipment Nordics SBU will forge ahead with its growth strategy by expanding its product portfolio, financing solutions, and implementing a greater focus on the service business. In-depth use of machine and system data will play a decisive role in this success.

The SBU will continue to concentrate its efforts on sustainability considerations. Both the construction of a new headquarters in the Gothenburg metropolitan area and the energetic renovation and conversion of existing properties are being carried out in a way that meets strict sustainability criteria.

For more information, visit
https://www.zeppelin.com/de-en/about-us/about-zeppelin/construction-equipment-eurasia

CONSTRUCTION EQUIPMENT EURASIA

Distribution and service of construction, mining and agricultural equipment in Eurasia

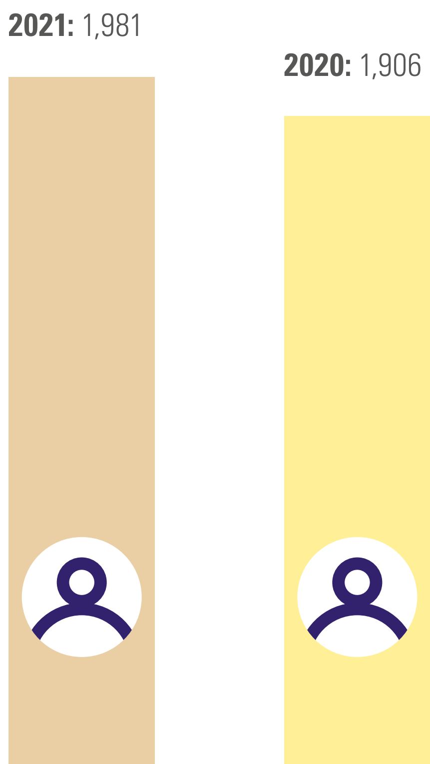
"The Zeppelin business in Eurasia offering construction, mining and agricultural equipment, as well as servicing, has developed very successfully and recorded strong growth despite difficult conditions. A healthy flow of orders from our customers, as well as the extremely close ties between customers and our distribution and service teams have enabled very successful development and further strengthening of our market position. However, in view of the military escalation between Russia and Ukraine and its consequences, we expect a significant decline in business volume. We hope that the conflict will be resolved soon, both in the interest of our employees and to be able to fully support our customers in their business activities again."

Frank Janas
Head of the Construction Equipment Eurasia SBU

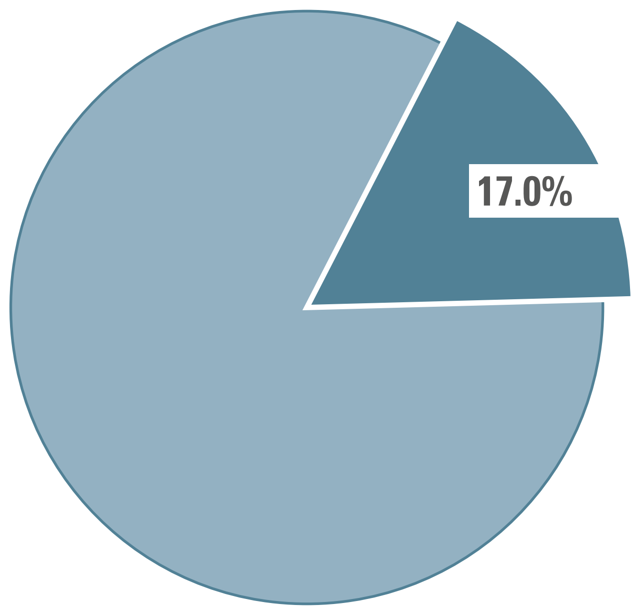
The Construction Equipment Eurasia SBU is very well positioned in Eastern Europe and Central Asia. Its portfolio includes Caterpillar construction equipment and special equipment for surface and underground mining, as well as large and special equipment for mining, quarries, and the oil and gas industry. It also extends to agricultural and forestry equipment from leading international manufacturers. The extensive product range is rounded off with fleet management and machine control systems for improving work processes and enhancing efficiency. Zeppelin has 66 sites across seven countries in the Eurasian cultural area (in Ukraine, parts of Russia and other CIS countries). Zeppelin leads the way in the region, with its Component Repair Centers for overhauling drive components (engines, axles and transmissions) for mining equipment.

SALES
in millions of euros / in accordance with IFRS

EMPLOYEES
as an average for the year, including trainees



SHARE
of Group sales (2021) [1)]



[1)] Here: Total SBU sales. For calculation reasons, rounding differences of one unit (€, % etc.) may occur in the tables and charts.

REVIEW

The Construction Equipment Eurasia SBU saw a marked increase in sales and earnings compared with the previous year. All national subsidiaries contributed to the success, which is particularly remarkable in view of growing sanctions and trade restrictions, geopolitical tensions, and the internal political situation in individual countries within the region. Sales of new machines reached new highs in Russia, Ukraine and Armenia. An increasing share of new machine sales was achieved via digital distribution channels, primarily in Russia, demonstrating that the adopted digitization strategy has been well received by customers.

Russia, Ukraine and Uzbekistan saw positive GDP growth. Despite ongoing sanctions, Russia has demonstrated far-reaching economic stability and continues to grow in those areas that are not dependent on Western imports, as well as its own oil and gas exports. The SBU recorded growth in all market segments – construction equipment, mining equipment, agricultural machinery, forestry equipment, and used machines. Due to the increased machine population and consistently high machine utilization in the Eurasian market, Zeppelin was also able to boost sales with spare parts and customer service.

Zeppelin continued to invest in these regional markets, and in 2021 it began construction of a new national head office with connected branch in Kyiv, Ukraine. Zeppelin's extensive network of branches with expert service makes it an invaluable partner for its customers. Zeppelin succeeded in acquiring one of Russia's largest steel producers, Stoilensky GOK, as a customer. Zeppelin supplied eleven Caterpillar 789D dump trucks for a PhosAgro Group mining project north of the Arctic Circle. A six-week demonstration phase in southern Russia persuaded customer Stroy Resource to purchase Caterpillar scrapers with Trimble 3D control in order to accelerate the construction process. Zeppelin concluded an agreement with Navoi Mining and Metallurgical Company (NMMK), the largest mining company in Uzbekistan and one of the world's leading gold producers, to supply 146 Caterpillar mining machines. Zeppelin plans to invest in the construction of a Component Repair Center (CRC) to ensure long-term provision of the necessary services in the region.

OUTLOOK

The mood of Zeppelin companies in Eurasia is severely clouded by the recent geopolitical tensions and armed conflict between Ukraine and Russia. Following strong market growth in 2021, Zeppelin initially expected stabilization at a high level for 2022, as Zeppelin's customers in the mining, construction and agriculture sectors recorded a very good order situation and high capacity utilization overall.

The military escalation between Russia and Ukraine and the already known and expected sanctions imposed by the USA and the EU against Russia will severely affect Zeppelin's business in both countries. A significant decline in business volume is therefore expected. In the worst case, the situation may also lead to the discontinuation of business segments. Irrespective of this, Zeppelin will continue to support customers in the countries to the extent possible and legally permissible.

The continued high global demand for raw materials will essentially lead to an urgent need for renewal and expansion investments in mining technology, which will continue to boost the mining equipment business. Russia and Ukraine, meanwhile, are expected to see a sharp drop in demand, while Uzbekistan is in the process of preparing large-scale projects that will be implemented in 2022 and subsequent years.

All measures are currently geared toward crisis management in Russia and Ukraine, and ensuring the ability to act within the bounds of what is feasible and possible. Irrespective of this, the other areas of the SBU will be strategically further developed, with a view to market penetration.

For more information, visit **https:// www.zeppelin.com/de-en/ about-us/about-zeppelin/rental**

"The outstanding performance, coupled with the extraordinary motivation, passion and soul of the entire Rental SBU team, brings a smile to my face every single day. Even in the most difficult circumstances, our employees always do their utmost to stand by our customers as an indispensable partner. Together we have what it takes to develop sustainably and prepare ourselves for the future."

Arne Severin
Head of the Rental SBU

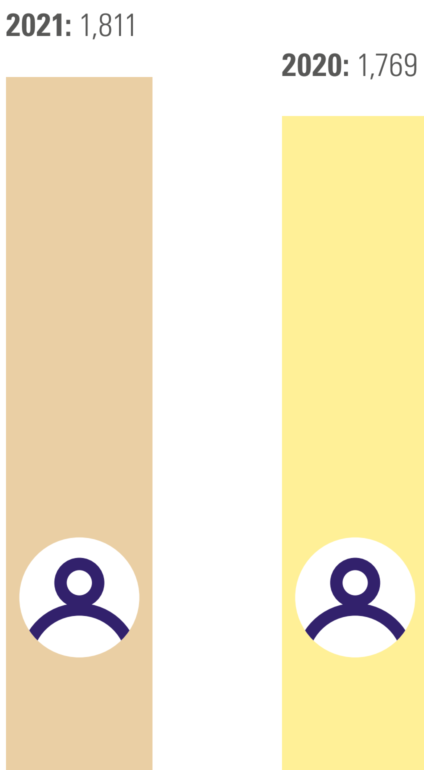
RENTAL

From rental equipment to project solutions

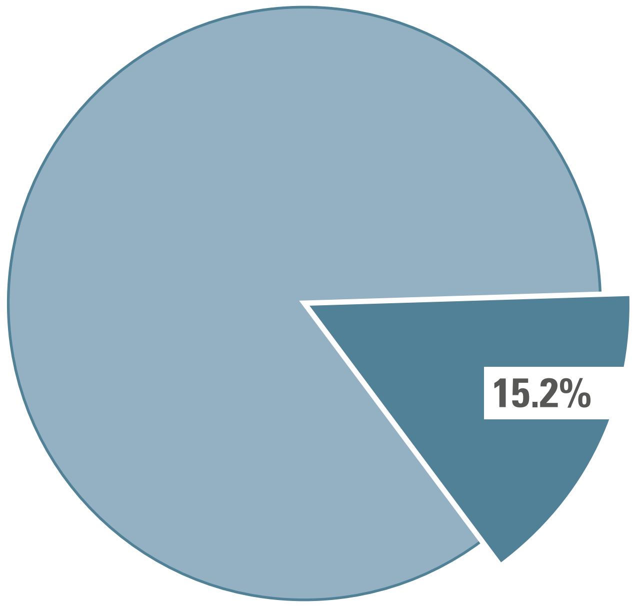
With customized solutions in the areas of machine and equipment rental, temporary infrastructure and construction logistics, the Rental SBU ensures the safe and efficient execution of projects in construction, industry, manual trades and events. With a rental fleet of more than 75,000 machines and devices from global market leader Caterpillar and other renowned manufacturers, maximum availability, quality and range are guaranteed. Temporary infrastructure provides needs-based concepts in site and traffic guidance, electrical construction site facilities and energy supply as well as customized modular room solutions: Planning, installation and ongoing support from a one-stop shop. Through the overarching planning and coordination of all secondary processes on a construction site, construction logistics ensures the framework conditions for smooth processes as well as adherence to deadlines and budgets. Zeppelin Rental is represented in six countries with nearly 160 rental stores, competence centers, and operating facilities, and is one of the largest equipment rental companies in Europe.

SALES
in millions of euros / in accordance with IFRS

EMPLOYEES
as an average for the year, including trainees



SHARE
of Group sales (2021) [1)]



[1)] Here: Total SBU sales. For calculation reasons, rounding differences of one unit (€, % etc.) may occur in the tables and charts.

REVIEW

The Rental SBU ended the 2021 financial year on a high note, with sales and earnings that once again far outstripped the previous year's figure. All relevant markets – Germany, Austria, Czech Republic, Slovakia, Denmark and Sweden – recorded an increase in market volume. Zeppelin's market share was at the previous year's level, with slight growth in the Austrian and Czech markets. The pleasing result is primarily due to very high equipment utilization in all product areas.

Effective from January 1 2021, Zeppelin acquired 100% of the shares in Energyst Rental Solutions GmbH & Co. KG and Energyst Rental Solutions AB, thereby extending the range of temporary power generation and temperature control solutions in Germany and Sweden. The four German sites were fully integrated on August 1 2021, augmenting Zeppelin Rental's existing nationwide network as a center of expertise for power generation and temperature control technology. In Sweden, Energyst Rental Solutions AB merged with the national subsidiary Zeppelin Sverige AB in December 2021 to provide customers with power generation and temperature solutions as an integrated Energy Rental business unit. Integration into the SBU of the Luther Group, which was acquired in 2019, was also successfully completed on August 1 2021. This means that planning and implementation services in traffic safety and traffic telematics are now available under the renowned Zeppelin Rental brand name. Development, production and distribution of innovative traffic guidance systems were acquired in full by Meton GmbH, which remains an independent company (100% owned by Zeppelin Rental GmbH).

The SBU also invested, in 2021, in the latest technology to further improve its services to customers. As a result, the 10,000 mark was reached for distribution boxes supplied, while Zeppelin has more than doubled its inventory within around seven years. "Last Mile Baulogistik", which was used successfully in the BE Strandkai project in Hamburg for example, also helps coordinate, track and document material flows in detail on the construction site – in other words, for the "last mile". Benefits include the ability of exporters to call up their material inventory in real time, and so to avoid unnecessary waiting periods for missing materials. The digital offering has also been expanded to include the Rental+ app, which allows customers to rent construction machines and equipment around the clock using a smartphone (see page 52).

Attesting to the success of the SBU is its handling of various major projects such as overall construction site management at Vienna's Nordbahnhof train station by means of an automated barrier system, the provision of 500 modular room systems and sanitary facilities as part of the 2021 Nordic World Ski Championships infrastructure, and traffic guidance systems for renovation of the Engelberg Tunnel. For the fifth consecutive time, the trade magazine SOLID presented Zeppelin with an award for best supplier in the construction logistics and rental sector in Austria. Caterpillar once again celebrated the achievements of the Rental SBU in the Operational Excellence category.

OUTLOOK

After a highly successful year, the Rental SBU is optimistic about 2022. Stable conditions for the construction industry are expected in all markets, which will have a positive impact on demand for rental and construction logistics services. Construction activity in Germany and Austria is at high levels. Planned investments in public infrastructure could boost the construction industry in Czech Republic and Slovakia. Denmark and Sweden are also benefiting from stable market conditions. It remains to be seen to what extent raw materials and building materials shortages, as well as delivery delays, will have an impact on demand for rental equipment and construction-related services. Depending on how the COVID-19 pandemic continues to unfold, we can also be hopeful for the resumption of events, which would spark a recovery in the event business.

The Rental SBU maintains a strategy within its five business segments and five foreign markets, and continues to work on expanding its integrated offering across the board. There is an increased focus on growth outside Germany, with more new rental stores scheduled to open in Sweden and Denmark. In Czech Republic, the portfolio is being expanded to include modular room and traffic guidance systems. The bauma trade fair will be the highlight of the industry's calendar in October 2022.

Digitization and environmental sustainability continue to be of central importance. In the area of digital transformation, the focus is on both internal processes and the provision of online-based customer services for greater efficiency and added value. The aim is also to provide customers with additional sustainable services such as the green ecoRent line, and to work closely with them on achieving their own carbon neutrality.

For more information, visit
https://www.zeppelin.com/de-en/about-us/about-zeppelin/power-systems

> ***"We were able to recover from the distinct impacts of the COVID-19 pandemic felt in 2020 and finish the year with positive results. Despite ongoing supply bottlenecks and material shortages, we are full of optimism for 2022 and have a very healthy order backlog. By expanding our business models and focusing on alternative drive systems and fuels, we are restating our pledge to become a solutions provider and partner for individual customer requirements."***
>
> ***Ralf Großhauser***
> Head of the Power Systems SBU

POWER SYSTEMS

Drive and energy systems

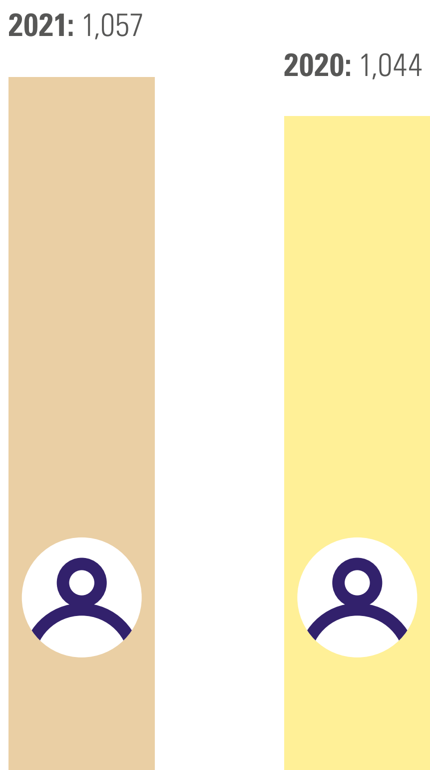
Zeppelin is a leading provider of drive, propulsion, traction, and energy solutions for industrial and marine applications, rail vehicles, the oil and gas industry, and power generation. The portfolio includes Caterpillar engines from the Cat and MaK brands, as well as worldwide service and digital solutions. Alongside drive solutions based on diesel, gas and dual-fuel engines, and in future also on alternative fuels, Zeppelin offers generator sets for power generation, combined heat and power plants, ship propellers, complete drive systems, and complementary systems. These are used in industry, agriculture, seagoing and inland waterway vessels, in rail transport, and in petroleum and natural gas production. Digital products for all segments as well as system components and complete solutions for treating ballast water complete the portfolio.

SALES

in millions of euros / in accordance with IFRS

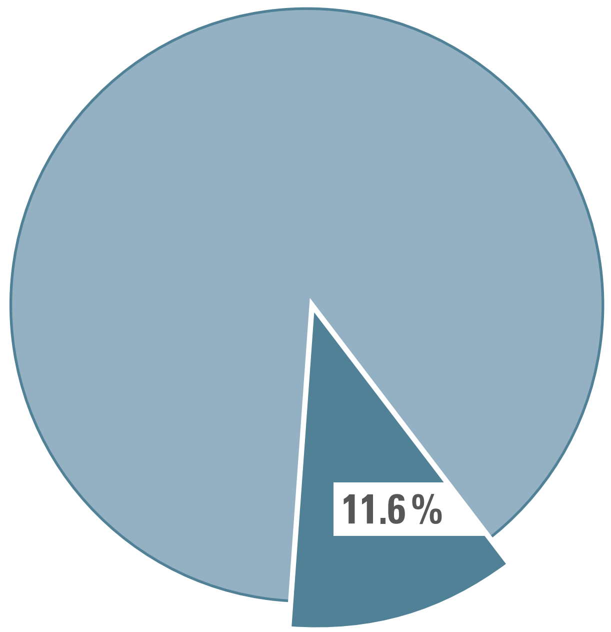
EMPLOYEES

as an average for the year, including trainees



SHARE

of Group sales (2021) [1]



[1] Here: Total SBU sales. For calculation reasons, rounding differences of one unit (€, % etc.) may occur in the tables and charts.

REVIEW

In 2021, the Power Systems SBU was able to significantly increase sales and earnings compared to the previous year, which had been characterized by a series of exceptionally negative factors. Both the order entry and backlog show a clear upward trend, primarily as a result of new major projects in the Electric Power Gas and Electric Power Diesel segment.
Sales of new engines contributed to the positive trend, particularly in Germany. In addition, the SBU benefited from strong growth in the service business in Germany, Russia, Denmark and Ukraine. Zeppelin has received initial inquiries about hydrogen applications in the energy and drive sector. Electric Power Diesel benefited from continued demand for data centers. In the industrial segment, Zeppelin was able to secure various large orders, such as the equipment of 25 two-car locomotives with a total of 50 engines for an end customer in the USA, which was a contributing factor to the positive trend overall. Due to supply bottlenecks, it was impossible to fully meet the high demand from our customers.

Zeppelin's manufacturer partner Caterpillar announced in July 2021 that it would cease production of new medium-speed MaK engines at its sites in Germany and China from the end of 2022, and that it would focus exclusively on the after-sales service in future. Zeppelin will therefore no longer sell new MaK-brand engines in future, but will fulfill existing orders and remain fully available to customers via its worldwide service network. In collaboration with Caterpillar, the Group will continue to offer customized service agreements and services for existing MaK engines. These include maintenance, repairs, original MaK spare parts, the deployment of mobile technicians, and digital solutions such as real-time analyses of engine operating data. Power Systems already has a number of new product groups under development in order to ensure the SBU's long-term future growth.

OUTLOOK

High utilization in the engine and service business plus high order entry mean that the Power Systems SBU is looking positively to 2022. Major challenges regarding material availability and delivery times of parts and engines somewhat cloud this positive outlook.
The military escalation between Russia and Ukraine and its consequences will significantly impact the Power Systems business in the region. Zeppelin expects a significant decline in business volume here and also cannot rule out the discontinuation of business segments.
Power Systems will continue to position itself as a solutions provider that customizes drive and energy systems, as well as offering additional services in accordance with customer requirements. Alongside Caterpillar's new engine distribution and service activity for Caterpillar and MaK engines, the focus in 2022 will be on the expansion of digital business models and on alternative drive systems and fuels. This means that in future, the gas engines for combined heat and power generation which are sold to local combined heat and power (CHP) plants will be operated with up to 100% hydrogen. Zeppelin has already secured an order for construction with the new technology of the Neukölln AG district heating plant, for which the groundbreaking ceremony took place at the end of 2021. The complete Caterpillar gas engine product range is expected to be available on the market by the end of 2022. In addition, the SBU is seeking to expand its core business with partnerships and projects in the area of fuel cells. The global expansion of segment expertise, such as in container solutions for power supply or combined heat and power plants, will continue to be a focus of our strategy.
CSR is also of great importance to the Power Systems SBU. From 2022 the SBU will only use green electricity from renewable energy plants, thereby achieving carbon neutrality in its calculated electricity consumption.

PLANT ENGINEERING

Engineering and Plant Engineering

For more information, visit
https://www.zeppelin.com/de-en/about-us/about-zeppelin/plant-engineering

> ***"2021 was characterized by companies playing catch-up. Investment decisions which had been postponed due to the COVID-19 pandemic now led to unexpectedly high order intake, meaning that Plant Engineering recorded a significantly higher volume overall compared to previous years. This forms a solid basis for achieving Plant Engineering's growth targets in the long run."***
>
> ***Rochus Hofmann***
> Interim head of the
> Plant Engineering SBU

Zeppelin specializes in constructing systems for the handling of high-quality bulk materials. With more than 70 years of experience in the individual process steps as well as comprehensive expertise in handling various raw materials, Zeppelin offers reliable complete solutions. From system planning to implementation, the company supports its customers worldwide at 22 locations, delivering all services from one source. Innovative process concepts are just as important as smart automation solutions and comprehensive service that covers the entire lifecycle of a system. Each Zeppelin system meets the individual requirements of its customers, which are in industries such as plastics, chemicals, rubber and tires, as well as food. As operator of the world's largest Association of Technical Centers for Bulk Materials, Zeppelin makes it possible for its customers to review and optimize plant design on an industrial scale. Zeppelin also develops and manufactures key system components itself, and sells these components for use in third-party supplier systems.

SALES

in millions of euros / in accordance with IFRS

2021: 340

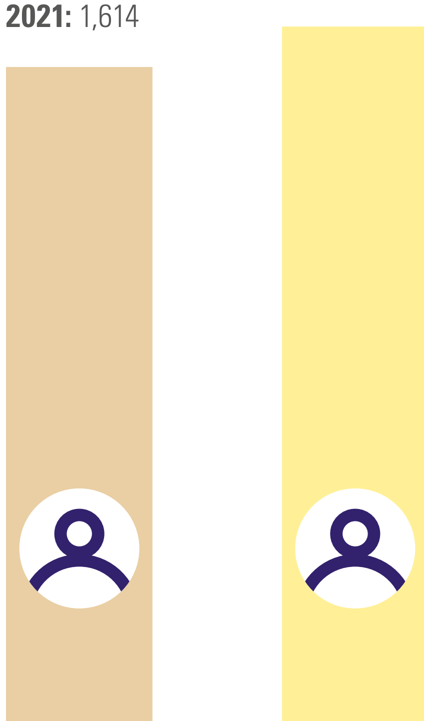
2020: 306

EMPLOYEES

as an average for the year, including trainees

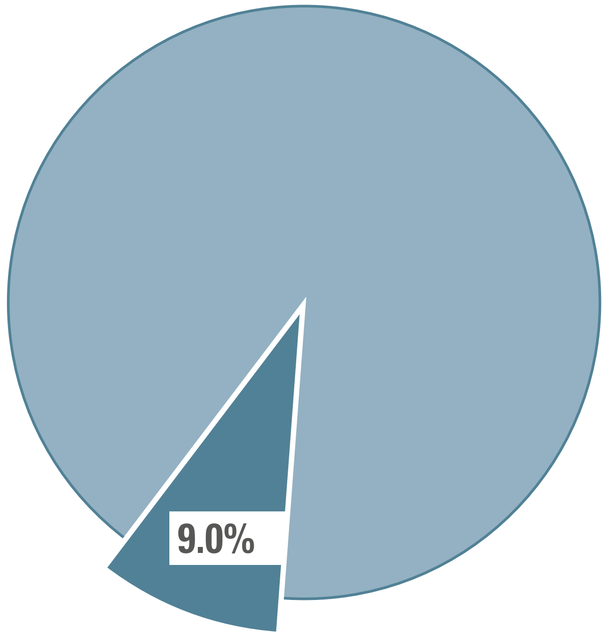
2021: 1,614

2020: 1,622



SHARE

of Group sales (2021) [1]



[1] Here: Total SBU sales. For calculation reasons, rounding differences of one unit (€, % etc.) may occur in the tables and charts.

REVIEW

The Plant Engineering SBU posted very positive results in the 2021 financial year and far exceeded the previous year's figures in terms of sales and operational earnings. New orders were strongly concentrated within specific companies and business areas. In addition to the German parent company, the main contributors to the extraordinarily high order entry were the subsidiaries in China, the USA and Brazil. Supply bottlenecks and a steep rise in costs for aluminum had some impact on the silo business.

With regard to polyolefin plants (plants for the manufacture of plastics), we saw a market recovery accompanied by a marked increase in demand. The Chinese market for plastics continued to gain in significance.
Project activity in rubber (carbon black for rubber processing) was subdued in 2021; it was only from the third quarter that the first signs of recovery could be seen.

In the performance materials business area (processing industry), plastics recycling and batteries for e-mobility were the main drivers of success. The Plant Engineering SBU responded to increasing need for batteries for e-mobility with the development of a special mixer for specific battery compound production requirements. Zeppelin also has systems for high-precision, true-to-formula dosing in the mixing process, which is crucial for battery performance. To complete the portfolio, we can also boast specialist expertise in the comprehensive handling of innovative, cohesive, and shear-sensitive bulk materials, as well as paste-type mixtures of them as used in the production of battery compounds. On the basis of this expertise, Zeppelin won two orders for the construction of large-scale plants for battery production in Europe and the USA.

In the food market, continuing cost pressures have dampened the appetite to invest. In Brazil however, Zeppelin secured an order to build one of the largest malt production plants in the world, with an output of 600 to 700 metric tons of malt per day. This is already the second large-scale plant of its kind to be built by the Group in Brazil. In future, the company's expertise will be channeled into a global business segment that Zeppelin plans to strategically develop.

OUTLOOK

Plant Engineering recovered from the COVID-19 pandemic in 2021, posted rapid growth in its core business areas of plastics, chemicals, rubber, tires, and food, and begins 2022 with a very high order backlog. Due to the high level of process engineering expertise it offers, Plant Engineering anticipates further success in the areas of malt production, battery technology for electromobility, and plastics recycling over the next few years. Battery technology in particular requires new plant concepts. High throughput, pinpoint accuracy in dosing, strict safety requirements for hazardous substances, traceability of raw materials and prevention of contamination, careful and efficient transport, and explosion protection are key issues for the future here. Customers also expect support in achieving their sustainability goals. Zeppelin offers outstanding products, advanced processes, and new ideas for the use of recycled or cutting-edge materials. In the area of digitization and networking, the traceability of raw materials throughout the entire production process continues to attract insufficient attention, though remote system maintenance will become increasingly important.

The military escalation between Russia and Ukraine and the already known and expected sanctions imposed by the USA and the EU against Russia will put a strain on the Plant Engineering SBU's business in both countries, particularly in the area of polyolefin plants. There were some orders from both countries in the Plant Engineering order backlog. If their processing cannot be guaranteed, this will significantly impact the expected sales and earnings for 2022.

Effective from January 1 2022, Zeppelin will acquire a majority stake in Magdalena Kitzmann GmbH. With this move Zeppelin Plant Engineering is taking steps to secure further market share in the area of PVC plants and the processing of pigments and fine chemicals.
As a valued partner with in-depth expertise, the company's participation will provide customers with even more efficient plants.

Effective from February 1 2022, Dr. Markus Vöge will take over as Chairman of the Management Board of Zeppelin Systems GmbH and Head of the SBU.

ZEPPELIN DIGIT

Digital innovations and transformations

The Zeppelin Digit Strategic Management Center supports all strategic business units as a cross-Group function, and it brings together expertise in the Zeppelin Group from the areas of IT, data, infrastructure, IT security and compliance, and digital product development. With Zeppelin Digit, the Group is putting in place a consistent IT landscape based on an infrastructure which is standardized across all disciplines. A user-centric approach is at the heart of everything we do, and pivotal to our commercial activity. Integrative and innovative tools and methods are harnessed to develop new products and services which address specific challenges facing users. Zeppelin Digit facilitates collaboration across all SBUs and departments on an interdisciplinary, transparent, and open basis, with the goal of enabling and fostering closer collaboration – and creating the best solutions for customers. Within the Zeppelin Digit Strategic Management Center, Zeppelin Lab GmbH functions as an open innovation and start-up center, bringing to market innovative solutions (ventures) that contribute to productive, sustainable and assured development in the areas of construction, logistics and infrastructure.

"IT and digitization are the foundation of Zeppelin's future competitiveness. We are proud to have created a solid foundation in all areas, and look forward to developing further customer-oriented solutions on this basis while successfully establishing them in the market."

Wolfgang Hahnenberg
Head of the Zeppelin Digit Strategic Management Center

REVIEW

The Zeppelin Digit Strategic Management Center (SMC) continued to support continued digitization of the Group's internal processes in 2021. The optimization of IT infrastructure which began at the start of the COVID-19 pandemic in 2020, as well as the introduction of new tools for efficient digital collaboration, progressed in 2021 with completion of the full rollout of the Microsoft Teams collaboration solution. There has also been further expansion of cloud technology which allows employees to be network-connected easily and from anywhere. Zeppelin has implemented comprehensive software solutions for monitoring irregularities in data processing and end device protection in order to meet the ever-rising challenges of cybersecurity.

Zeppelin Digit supported worldwide introduction of the Workday HR software (see page 58) and gradual integration of SAP within the individual Group companies. As part of the Z ONE SAP project, the Zeppelin Austria subsidiary was technically upgraded from SAP to S/4 HANA in 2021.

Zeppelin is also looking to introduce a Group-wide CRM solution based on Salesforce. Together with Zeppelin Rental GmbH, Zeppelin Digit launched an initial implementation project utilizing agile methodology in 2021, with initial go-live scheduled for the first quarter of 2022. Further iterative releases will follow at regular intervals.

In 2021, a CPQ (configure, price, quote) solution was also selected to be standard in the Group in future, on the basis of which decision initial planning for a combined CRM/CPQ project was carried out in the Construction Equipment Central Europe SBU. The project is scheduled to start at the end of the first quarter of 2022.

The Z LAB environment had already produced klickrent, a digital rental platform for construction technology, back in 2014, then with klickcheck in 2019 it provided another digital application for the rental industry (the app facilitates the rapid and trouble-free handover of construction equipment). As of October 1 2021, these market-launched brands were merged under the Accelerent GmbH umbrella brand created specifically for this purpose. In doing this Zeppelin has facilitated the optimized market scaling-up of both start-ups under one leadership, i.e. increasing sales without having to make major investments in production and infrastructure at the same time.

OUTLOOK

Expansion of the digital workplace with the "Journey to the Cloud" will continue to be a key focus of our work in 2022. The heterogeneous digital tools landscape will be further harmonized and automated with Microsoft 365 as the central platform, together with a globally standardized framework for the Business Process Management area. Following the introduction of the Workday human capital management system (HCM), 2022 plans for it include extending the system to incorporate succession planning, talent management, and further training, as well as the connection of local systems. Harmonized processes further enhance efficiency in HR.

In order to counteract the risks of the generally still very tense cybersecurity situation, expansion of the global information security management system (ISMS) is moving ahead at full steam, while close collaboration with all IT units continues. The global and service-oriented approach to IT infrastructure operations will be broadened, with the main focus on further development of the cloud strategy.

State-of-the-art technology is being introduced in the Power Systems and Construction Equipment Nordics SBUs with migration of the ERP systems to SAP S/4 HANA.

The Construction Equipment Central Europe and Rental SBUs are the focus of the Salesforce CRM system implementation. Zeppelin Digit will also continue to support the combined CRM/CPQ project in the Construction Equipment Central Europe SBU.

In close collaboration with the business units, Digital Business is expanding its eCommerce portfolio to include construction equipment sales, and extending its digital solution range to include the new App Store Cockpit. Zeppelin Lab GmbH aims to further develop and spin off its akii and zamics products, while an accelerator program is being established to support new start-ups.

PRODUCT INNOVATIONS

First 100-metric-ton dozer with diesel-electric drive: Cat Dozer D11 XE

Caterpillar is launching the Cat D11 XE, the first 100-metric-ton dozer to have a diesel-electric drive. Combining high performance with greatly reduced fuel consumption, but also improved durability and easy maintenance, the D11 XE offers the lowest ownership cost-per-metric-ton when it comes to pushing and grading. As the world's largest, most powerful and most efficient bulldozer to feature an electric Delta drive and with the characteristic elevated traction wheel, this type will be a great addition to the Cat dozer product line. The Cat D11 XE promises low emissions per metric ton, and aims to reduce fuel costs by up to 25% in relation to the material use. The completely new design, unprecedented at this scale, aims to allow up to 20% longer engine overhaul cycles compared with machines with a mechanical powertrain, while 60% fewer moving parts – primarily due to the omission of transmissions and converters – means enhanced reliability and service life of the entire powertrain. The drive, electronics, software and control system have been entirely developed by Caterpillar, specifically for the D11 XE. The updated electronics architecture allows the dozer to use proven Caterpillar technologies such as MineStar Command for both remote-controlled and semi-autonomous pushing and grading. The D11 XE is currently in use at Caterpillar's dozer test facility in Peoria, Illinois, and will subsequently undergo rigorous field validation before full production begins.

Hydrogen-powered engines for combined heat and power plants

In collaboration with its manufacturer partner Caterpillar, from 2022 Zeppelin will offer gas engines for combined heat and power generation in local combined heat and power plants (CHP) which can also be operated with up to 100% hydrogen. The first gas engine units with hydrogen admixture (natural gas + 25% hydrogen), as well as retrofit sets for natural gas/hydrogen mixed operation, have been available for existing plants since the end of 2021. The entire Caterpillar gas engine product range will be available on the market by the end of 2022, meaning that Zeppelin will be able to offer its customers high-performance, cost-effective technology solutions that contribute to reducing CO_2 emissions.

Rental+: Rent, unlock, use and return equipment directly via smartphone – 24/7 and without the need for Zeppelin employees on-site

Zeppelin Rental has developed an innovative digital customer service which is being piloted by Zeppelin Rental Austria in the context of a construction project to develop districts around Vienna's Nordbahnhof train station. Customers can register via the Rental+ app, log in and select the desired product and rental period. As soon as a machine has been rented on Rental+, the customer can lock and unlock it at any time using a smartphone and Bluetooth. After completing a check-out process, during which information including the machine condition, tank level and operational time are confirmed and documented, the equipment can be used right away. Machines are returned in the same way. Rental+ means maximum flexibility, availability around the clock (without Zeppelin employees on-site), efficient usage thanks to daily billing, and improved sustainability due to the elimination of transport requirements. The technology also offers further application possibilities, for example on industrial sites and at trade fairs. The service is initially available for large construction sites and building yards of major customers.

The perfect answer to inquiries: The Plant Engineering Customer Service Center

In order to further improve its aftersales service, the Plant Engineering SBU has set up a new Customer Service Center to act as a key point of contact both internally and externally. It coordinates all inquiries and either answers them directly or forwards them to the right contact person. This means that every customer, as well as the Zeppelin team, receives relevant responses and a complete solution to their problem. However, the Customer Service Center is not only the first point of contact for aftersales, but also provides expert information on many other topics relating to plant engineering. Employees in the Customer Service Center use an internal ticket system to track inquiries, which ensures a structured, efficient processes for total reliability right from the start.

CORPORATE SOCIAL RESPONSIBILITY

Corporate Social Responsibility is part of Zeppelin's sustainability strategy and one it is clearly committed to. Being socially responsible is just as much an integral part of the Group's values as its corporate strategy. Corporate social responsibility creates the conditions for sustainability, employer attractiveness, and sustainable economic success. Zeppelin has always engaged with economic, environmental, and sociocultural issues, and seeks to continually develop its commitment in these areas.

Zeppelin defines strategic focal points at the beginning of each year; sustainability is integral to these considerations. In 2021 the focus was on reducing waste and water consumption. SBU-specific, measurable targets and measures are defined in the strategy-setting process. A key goal for Zeppelin is to become carbon neutral in its own business operations by 2030. To this end the Group has developed a "master plan" embracing a Group-wide concept for energy-efficient renovation of all Group-owned sites, including, for example, the installation of photovoltaic (PV) systems, which has already been implemented at many sites. All new buildings such as the branches in Linz, Austria and Eschweiler, are built to be climate neutral in operation.

With the fleet guideline that came into force in 2021, Zeppelin is not only gradually converting its fleet to e-mobility, but also equipping all German and Austrian sites with charging points that can be used by both customers and employees.

One of the measures Zeppelin relies on to improve its climate performance is an energy management system that meets the ISO 50001 standard, which is being continuously expanded to more areas and in 2021 was successfully certified for the first time in Denmark and Sweden. Comprehensive, successful monitoring audits of the energy management system were conducted in Germany, and also in national subsidiaries in Czech Republic, Austria, Poland and Slovakia.

WE ARE Sustainable

In addition, a monitoring audit in Germany confirmed Zeppelin's high standards for environmental management (ISO 14001), occupational health and safety (ISO 45001), and quality management (ISO 9001). A number of instances of Zeppelin's commitment have been recognized in the EcoVadis Sustainability Rating: Zeppelin Systems GmbH achieved a Gold rating, Zeppelin Sverige AB and Zeppelin Rental GmbH were awarded the Silver Seal, and Zeppelin Baumaschinen GmbH and Zeppelin Österreich GmbH both received Bronze.

Since 2016, the company has recorded non-financial key performance indicators (KPIs) in defined areas such as occupational health and safety, compliance, data protection, energy and environmental management, donations and sponsorship, and employee satisfaction. In order to further optimize data collection and analysis, Zeppelin will introduce special software for reporting non-financial key performance indicators in 2022. The Group collates annual results and progress, together with goals and measures, in a comprehensive integrated report on sustainability. The report simultaneously sets out the progress made as part of the UN Global Compact initiative in the areas of human rights, labor standards, environmental and climate change solutions, and the fight against corruption. The report has also been published in English since 2021. In addition to the Sustainability Report, there is also a CSR brochure (in German and English) that provides employees and customers with a good overview of what we are doing.

With its Z IDEA idea management scheme, the Zeppelin Group encourages its employees to develop and contribute their own ideas. Two special campaigns in 2021 were centered on CSR topics. More than 130 ideas were submitted on the subject of "Zeppelin's ecological footprint", making it the most successful global ideas management campaign to date. Many of the creative ideas for saving energy, water and waste have already been implemented. Employees also displayed their commitment and ingenuity during the "We are Zeppelin – We are Diversity!" campaign (for more information, see page 58).

The company is working continuously to further expand its existing range of sustainable products and services. Together with our manufacturer partner Caterpillar, more new products equipped with alternative drive systems will be presented, for example at bauma 2022. In future, gas generator sets with hydrogen admixture will also be available for combined heat and power plants. Zeppelin is also strongly committed to battery compound production for electromobility, and has set out a clear aspiration to be the best possible partner for customers to help implement and safeguard their sustainability goals.

Zeppelin also expects its partners (suppliers, service providers and subcontractors) to contribute to a comprehensive approach that assures responsible activity and the sustainability-focused optimization of products and services. With this in mind, in 2021 the Group drafted the Supplier Code of Conduct which applies to all collaboration worldwide – even where it imposes stricter requirements than the legal framework directly applicable to the supplier. The Code is the framework for all deliveries and projects, and constitutes part of preparations for the German Supply Chain Due Diligence Act to which Zeppelin will be bound from January 2023. The Zeppelin Trust Line gives employees, partners, and suppliers the opportunity to provide information anonymously and around the clock, if they have legitimate grounds to suspect that Zeppelin employees, partners, or other third parties are in serious breach of the Code of Conduct, Zeppelin's values, compliance rules, or the applicable law.

A CSR action week was organized for January 2022 to raise employee awareness of CSR issues and give them the opportunity to access more information.

Social responsibility as an integrated part of CSR

The Zeppelin Group supports projects and initiatives in the areas of sport, science, education, and culture, and is committed to supporting charitable and humanitarian causes through monetary or in-kind donations. The focus is on funding and projects that reflect Zeppelin's corporate values.

Zeppelin attaches particular importance to supporting young people in the field of research and education. For example, the company supports the JUST! Zeppelin Youth Foundation, which was established jointly by Zeppelin GmbH and Luftschiffbau Zeppelin GmbH in 1990. The Foundation regularly allocates sponsorship worth EUR 25,000 in total to recognize outstanding work in natural sciences and engineering, economics, and social and cultural science. 2021 saw the launch of a new appeal for projects on the topic of "Living and Learning in the Pandemic". The winning projects will be honored a the JUST! Award - ceremony in May 2022. For more information, visit www.just-zeppelin.com.

Zeppelin also supports non-profit and charitable organizations that support people in exceptional situations such as natural disasters. For example, the Group donated EUR 100,000 to the "Deutschland hilft" relief coalition to support the victims of flooding disasters in Germany in summer 2021. Zeppelin employees who volunteered for the rescue and clean-up work were also paid during this period, and rental equipment was made available on special terms.
Zeppelin also regularly supports "Home from Home", a charity working for a better future for orphans, HIV-positive children and abandoned children in the townships around Cape Town, South Africa. Another area of engagement for Zeppelin is in the promotion of sport – above all, team sport. The Group has sponsored VfB Friedrichshafen in volleyball, football and badminton leagues for many years.

Further detailed information on the subject of Corporate Social Responsibility, including social commitment at Zeppelin, is available in the integrated Sustainability Report / UN Global Compact progress report, and at **www.zeppelin.com/de-en/about-us/responsibility/**

ORDER SUCCESSES

Kühtai power plant construction: Zeppelin scored a major win with cross-border collaboration on a substantial order for 16 Cat large-scale machines
During expansion of the Kühtai power plant in Tyrol, around 30 kilometers west of Innsbruck and almost 2,000 meters above sea level in the heart of the Alps, the Construction Equipment Central Europe SBU supplied 16 large-scale machines in close collaboration with its manufacturer partner Caterpillar. Zeppelin supplied two Cat 6015B and 352 tracked excavators, seven Cat 777G dump trucks, two Cat D8T and two Cat D6XE dozers, and a Cat 140 engine grader, achieving nine-figure sales, having won over ARGE SKW Kühtai as a customer with its excellent consulting service in the lead-up to the order and then demonstrating exceptional logistics capabilities with the delivery of the 16 large-scale machines – produced by Caterpillar on four continents – to the Alpine construction site in record time.

Swedish company DKLBC expands its fleet with 27 new Caterpillar machines
The Construction Equipment Nordics SBU supplied Swedish company DKLBC, based in the greater Stockholm area, with 27 new Caterpillar excavators of various sizes and eight wheel loaders. The total package for the customer includes service agreements, extended warranties and financing, and comes to approximately SEK 20 million.

Knauf: Mining equipment for Russian sites
Knauf, a major German manufacturer of plaster and building materials, has updated its mining equipment fleet at various Russian sites. The Construction Equipment Eurasia SBU delivered eleven large mining machines to Kuban and Baskunchak via its Russian subsidiary. Zeppelin was able to secure the order thanks to its outstanding service in the sales territories and Cat Job Site Solutions, which enables the customer to operate machine fleets with greater productivity and cost transparency.

Nordic World Ski Championships 2021: World-class temporary infrastructure
The Rental SBU contributed a series of modular room systems and sanitary facilities to the temporary infrastructure at the 2021 Nordic World Ski Championships in Oberstdorf. Systems were supplied for offices, preparation and recreation rooms, and sanitary areas. A total of 29 container facilities, consisting of almost 500 modular room systems in total, were prepared in various service competence centers in Germany and brought to Oberstdorf with detailed logistics planning. The International Broadcast Center, IBC for short, from which hundreds of media representatives reported on the World Cup, presented a particular challenge in terms interior equipment: As well as requiring electrical connections in the containers, and insulation or cladding of floor intersections, in some places the installation had to include special acoustic ceilings or cable ducts in the outer walls in order to be able to route signal cables and other lines from the workstations to the remote broadcast trucks.

Hamburg fleet: New standards in port logistics thanks to Active Equipment Connect (AEC)
The Power Systems SBU has equipped more than 40 ships in the Hamburg fleet (from firefighting and police ships to sounding ships and transport ships, as well as pilot transport boats and icebreakers) with the company's own AEC system. This offers a wide range of customized solutions for the collection and use of data. The underlying technology is a high-performance IoT infrastructure, proprietary hardware for data collection, and an individually configurable web portal that displays all desired information on networked systems at a glance. Networking the ships enables the Hamburg fleet to optimize its processes, make well-informed decisions and prevent failures.

Batteries for e-mobility: Production of battery compounds with large-scale technical plants from Zeppelin
Zeppelin continuously expands its expertise in the field of battery technology. This resulted in the successful acquisition in 2021 of two orders for the construction of large-scale plants to produce batteries for e-mobility solutions in Europe and the USA. The Plant Engineering SBU impressed the customers with tailor-made solutions for all manufacturing steps. These range from the production of anode and cathode in a special, dust-free and complex mixing process for which Zeppelin has developed a special mixer, to highly accurate, true-to formula dosing during the mixing process. Zeppelin has extensive expertise in the handling of innovative, cohesive, and shear-sensitive bulk materials, as well as the paste-like mixtures of them used in the production of battery compounds. Additional "gigafactories" will be required over the next few years to meet the battery requirements of electromobility, and Zeppelin's expertise will be key when it comes to building them.

ZEPPELIN AS AN EMPLOYER

An advanced working environment

In Human Resources too, Zeppelin is positioning itself as a highly advanced employer, as it introduces the automation and digitization of work processes to reduce manual procedures and facilitate their integration into processes, including mobile working processes. Workday was introduced worldwide in 2021 as a standard piece of software that replaces the various individual IT solutions in Human Resources, and provides employees with a range of services such as a global internal job market and user-friendly self-service functions for amending personal data via a platform. Zeppelin is creating efficient HR processes with these steps, together with the gradual introduction of ATOSS, which provides employees in Germany with an easier way of recording their hours and filing vacation requests even when they are off-site, and the launch of peopledoc, a software tool that has been used to transform HR file management and document generation into a digital process.

The experience Zeppelin has had with mobile working during the COVID-19 pandemic led to the company expanding an existing Group Works Agreement on mobile working in Germany back in 2020. Work has been made far more flexible in the areas of activity where this is possible, and so an efficient combination of office and mobile working has been established. For Zeppelin it makes sense to also respond physically to the changing requirements and needs of the new working world ("New Work"). As such the headquarters in Garching launched a pilot project to create a new office concept featuring short-term workstations, open-space landscapes, desk sharing, project rooms, and quiet zones for more focused work. Based on the findings of this pilot project, the company is planning to gradually restructure all areas at headquarters and, if necessary, at other sites.

WE ARE ZEPPELIN

We are Colourful – Diversity and Appreciation

While we are united by strong shared values, we also draw additional strength from the differences and diversity to be found at Zeppelin. Diversity is an important contributory factor in Zeppelin's global success. That is why we continued to focus on this topic in 2021 with the implementation of a range of campaigns and measures. As part of a campaign week under the motto "WE are Zeppelin – WE are Diversity", employees worldwide were able to learn and exchange ideas on the subject of diversity in digital presentations, round table discussions, and reports from personal experience. To build on this event, a special campaign was run under the same title by the Group-wide Z IDEA idea management program immediately afterwards. It asked employees to contribute their ideas for facilitating even greater diversity in collaboration across the company. There was further opportunity to reflect on the topic in a series of keynote presentations. The new Z PARENTS program is specifically designed to support men and women before, during and after parental leave with a view to improving work-life balance. Campaigns were run at various sites as part of the Z NOW program, which was launched in 2016, and focuses on the promotion and visibility of female specialists and managers. Our presence at the herCAREER careers fair was another highlight for attracting and introducing female professionals and talented specialists to Zeppelin.

Zeppelin as an employer

For Zeppelin, the promotion and targeted development of all employees is paramount, true to the "Grow with Zeppelin" promise. The Group offers a wide range of career opportunities thanks to the variety of work on offer and its international scope of activity. The cornerstones of HR work are geared towards finding talent, supporting employees, and motivating them to stay with Zeppelin for the long term. In 2021 we further enhanced and advanced tried-and-tested programs and initiatives, such as management development programs, the central Z Talent platform supporting internal succession planning, and Z Next, the customized trainee program for university graduates. New programs on digitization skills and hybrid working have also been successfully put into practice.

Zeppelin not only provides extensive support when it comes professional development, but also offers opportunities to create a better work-life balance. Alongside flexible working time models, support for childcare during vacation periods, and advisory services for employees in difficult personal circumstances, this includes an extensive health and sports program in the context of the Z FIT initiative.

The company's success is primarily down to the solutions-oriented commitment of all employees worldwide, so for Zeppelin it is self-evident that we recognize their achievements. In 2021, in addition to the agreed profit sharing, all employees worldwide received a COVID-19 bonus in May and December, as a sign of gratitude from the Group for employees' dedication under difficult pandemic conditions.

The Zeppelin Group has once again received the "audit berufundfamilie" quality seal recognizing its sustainable, family-friendly and life-stage-conscious HR policy. The audit was conducted under the sponsorship of the German Federal Ministry for Family Affairs, Senior Citizens, Women and Youth, and encompassed management holding company Zeppelin GmbH, the German companies of the Construction Equipment Central Europe, Rental, Power Systems and Plant Engineering strategic business units, and the Zeppelin Digit Strategic Management Center including Z LAB GmbH. In the "Germany's Best Employer 2021" rankings of Stern magazine, Zeppelin took 83rd place (out of 650 companies) in the overall ratings. Taking 8th place in the "Rail, Ship and Aircraft Construction" category and 9th place in the "Mechanical and Plant Engineering" category, Zeppelin was able to improve significantly compared to 2020, not only in the overall Stern rating but also in the ranking by industry. Handelsblatt, initiator of the "Fair Company" rating, praised the company as doing a particularly good job of meeting career starters' and young professionals' values and expectations as a fair and attractive employer. The F.A.Z. Institute, which analyzed data from more than 18,200 companies in its "Germany's Most Popular Employer 2021" study, ranks Zeppelin among Germany's most sought-after companies to work for.

Zertifikat seit 2018
audit berufundfamilie

F.A.Z.-INSTITUT
Deutschlands begehrteste Arbeitgeber
Basis: Arbeitgeberreputation
09 | 2021
www.faz.net/begehrteste-Arbeitgeber

stern
ZEICHNET AUS
DEUTSCHLANDS BESTE ARBEITGEBER 2021
Zeppelin

Handelsblatt
FAIR COMPANY 2021
Zeppelin Konzern

GROUP TOPICS 2021

There are two factors which have been equally fundamental in the success of the Zeppelin Group in recent years and the so-far positive handling of the COVID-19 crisis: Zeppelin's corporate culture including its values system, and the corporate strategy. The values system is based on integrity and excellence and is expressed in our ten "Grafensätze" principles. The GPS corporate strategy is geared towards the goals of continuous growth, outstanding performance and long-term stability. Always guided by these cornerstones, each year the Group Strategy Call takes place to enable the company to define the specific thematic points of focus for the year. These themes must relate to the entire Group, have an impact on Zeppelin's business models, and chart the company's course for the future. In addition to systematic portfolio and performance analysis broken down by SBU, the focus in 2021 was on developing the leadership principles which apply worldwide, as well as on reducing waste and water consumption as part of the sustainability strategy (see also CSR page 54).
The Group's senior management and executives regularly discuss the Group's strategy and direction. As the COVID-19 pandemic made a face-to-face event impossible, the meeting was held digitally for the first time in 2021: The Virtual Management Summit 2021 (#VMS21). Around 450 managers from all business areas and territories of the Group took part in the two-day event with the slogan "Simply the best – Ready for an innovative and sustainable future!". The event was streamed from a specially set-up TV studio at the Friedrichshafen trade fair, and was simultaneously interpreted into English, Russian, Swedish and Danish. Interaction and discussion across all national and SBU borders was facilitated by means of various formats such as Q+A sessions, Padlet boards (digital pin boards), digital surveys and a "hot seat" with the Group Management Board.

#VMS21 focused on the topics of leadership, digitization, sustainability, the "new normal", i.e. new forms of work organization at Zeppelin, as well as various questions relating to customer service and contact. All topics were considered in connection with the corporate values and strategy. Our shared leadership principles should connect, provide guidance, and convey clear expectations to managers and employees. The sustainability strategy pursues the ultimate goal of becoming carbon neutral in current business operations by 2030 (see also page 54). New forms of work organization are crucial to our attractiveness as an employer (see also page 58).

ACQUISITIONS AND INTEGRATIONS

Expansion in the area of temporary power generation and temperature control solutions: Acquisition and integration of Energyst in Germany and Sweden

With the acquisition of German Energyst Rental Solutions GmbH & Co. KG and Swedish Energyst Rental Solutions AB on January 1 2021, Zeppelin expanded its range of temporary power generation and temperature control solutions in Germany and Sweden. The German company's four sites were fully integrated into the Rental SBU on August 1 2021, augmenting Zeppelin Rental's existing nationwide network as a competence center for power generation and temperature control technology. In Sweden, Energyst Rental Solutions AB merged with the national subsidiary Zeppelin Sverige AB in December 2021 to provide customers with energy and climate solutions there as an integrated Energy Rental business unit within Zeppelin Sverige AB.

Portfolio expansion in the field of mixing technologies with MTI mixing technology

In order to enhance its product range in the area of mixing technology (particularly for heating, cooling and universal mixers for PVC processing), Zeppelin took over parts of the Detmold-based MTI Mischtechnik from January 1 2021. This expanded and optimized the product range of the Plant Engineering SBU, as the MTI and Zeppelin mixer solutions are generally used in different industries, and there was only a slight overlap in the product portfolio.

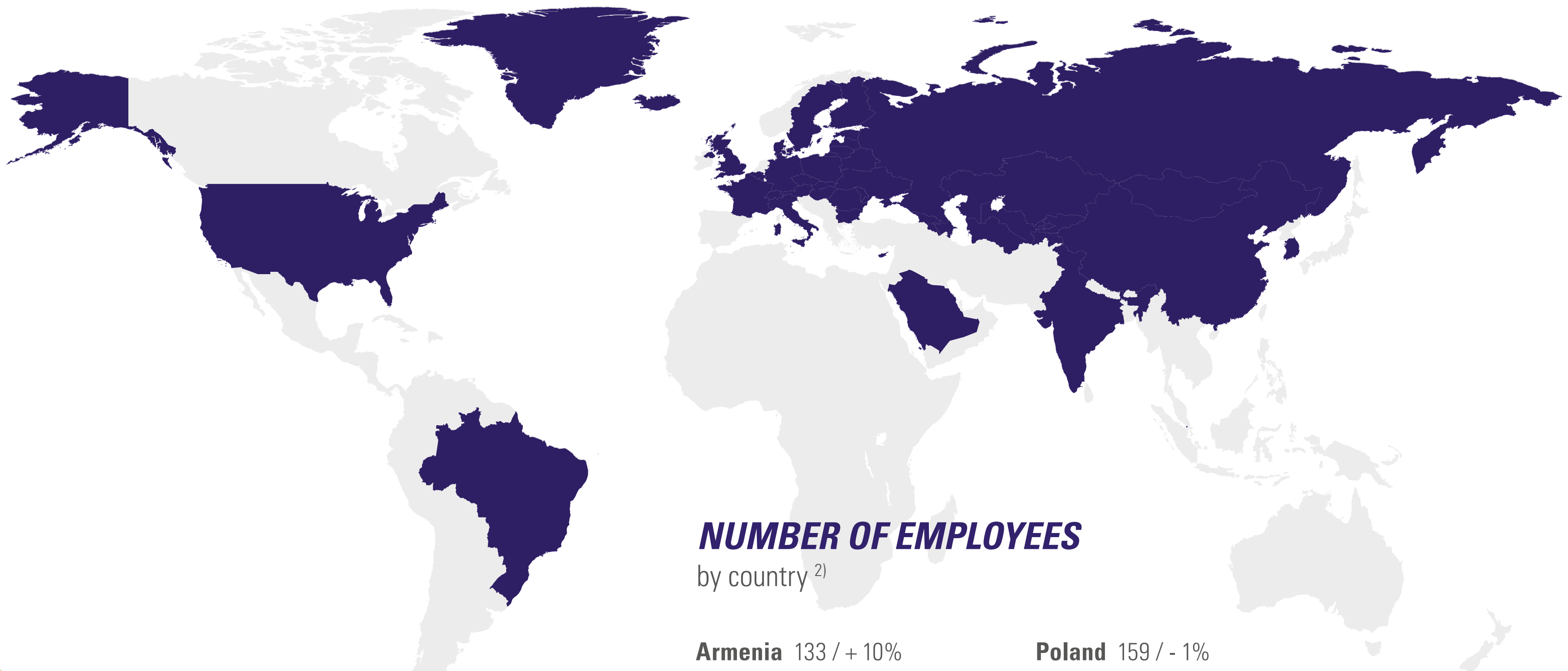
Widening of expertise in the area of performance materials: Acquisition of a majority stake in Magdalena Kitzmann GmbH

Zeppelin continued to widen its expertise in the area of performance materials by acquiring a majority stake in Magdalena Kitzmann GmbH, and providing its customers with comprehensive support in this market segment via a partner with many years of expertise. The PVC and chemical applications market segments in particular will be strengthened by the new partnership. As a specialist for customized and reliable complete plants, Kitzmann is renowned for reproducibility, functional reliability and operational reliability. The 360° range of services includes engineering, commissioning of individual components, and the creation of turnkey plants for liquid or solid materials handling. Magdalena Kitzmann GmbH will remain an independent company and will continue to serve customers from its Lengerich site. This share acquisition will be effective from January 1 2022.

klickrent and klickcheck combined under the Accelerent umbrella brand

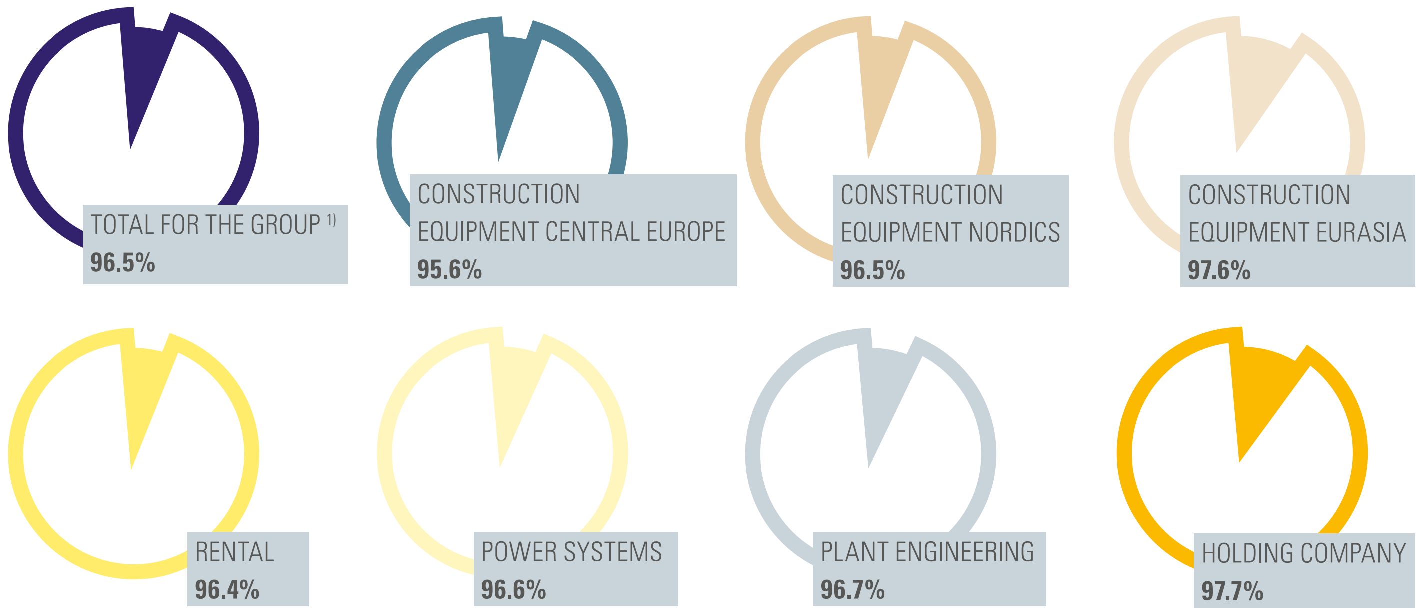
With its klickrent and klickcheck brands Zeppelin offers digital solutions for the construction industry. Online platform klickrent has been providing customers with an option to rent construction equipment from various suppliers throughout Germany since 2014, while klickcheck simplifies the documentation of rental machine handovers and the management of entire equipment fleets. The klickrent and klickcheck brands already launched on the market were merged under the Accelerent GmbH umbrella brand on October 1 2021, to create the optimal conditions for scaling-up in the market. The klickrent and klickcheck brands are still present in the market, and there have been no changes for customers.

WORKFORCE FIGURES



HEALTH EXPENDITURE

as a percentage



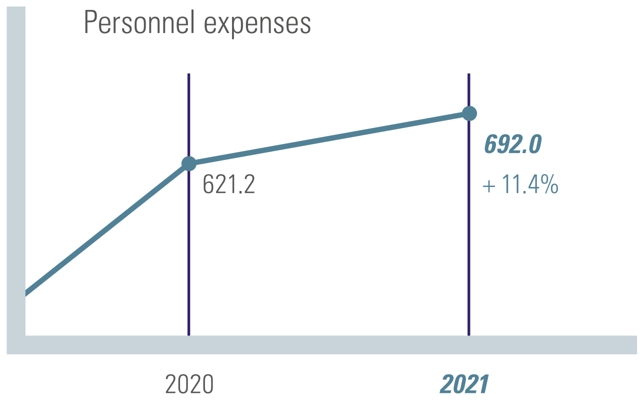
NUMBER OF EMPLOYEES

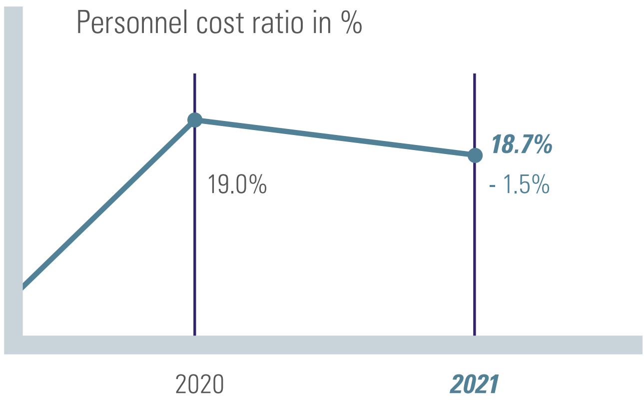
by country [2]

Armenia 133 / + 10%
Belarus 54 / + 4%
Belgium 17 / + 6%
Brazil 96 / + 13%
China 136 / + 7%
Denmark 285 / + 9%
Germany 5,627 / + 4%
Estonia 12 / > 100%
France 25 / + 32%
Greenland 7 / + 40%
United Kingdom 15 / - 32%
India 207 / - 1%
Italy 50 / + 6%
Austria 293 / +- 0%
Poland 159 / - 1%
Russia 1,384 / + 7%
Saudi-Arabia 19 / - 70%
Sweden 588 / + 15%
Switzerland 18 / +- 0%
Singapore 10 / + 25%
Slovak Republic 143 / + 4%
South Korea 3 / - 25%
Tajikistan 11 / +- 0%
Czech Republic 518 / + 1%
Turkmenistan 18 / + 13%
Ukraine 595 / + 7%
USA 87 / + 12%
Uzbekistan 45 / + 36%

PERSONNEL EXPENSES

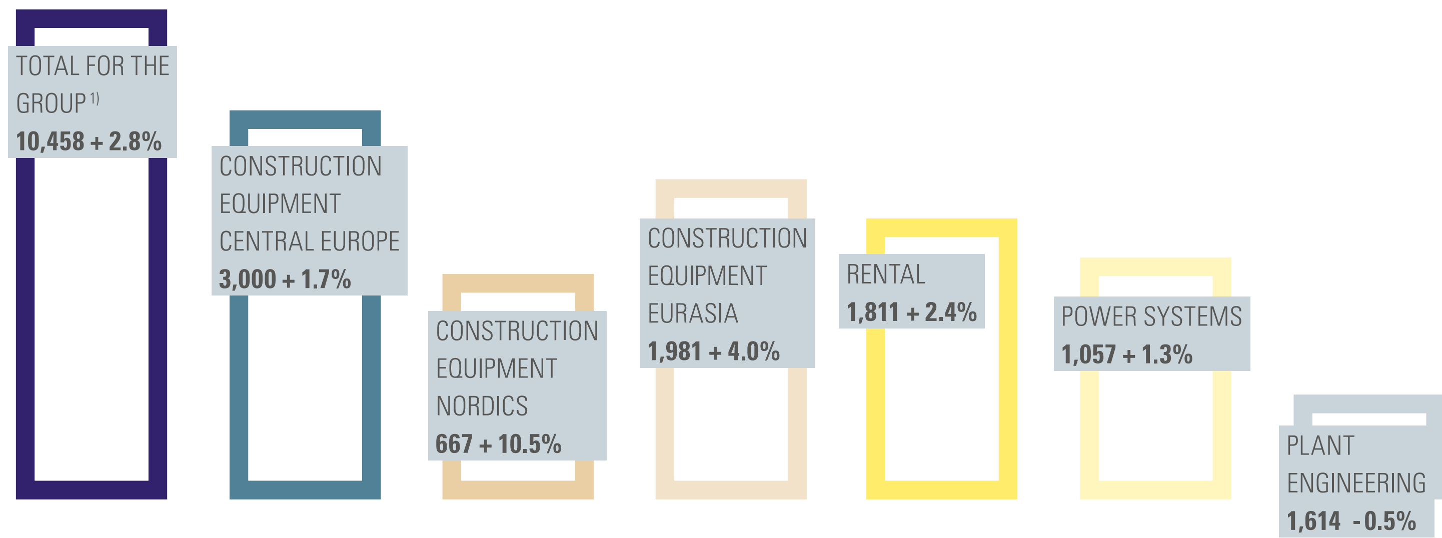
in millions of euros in accordance with IFRS





EMPLOYEES

as an average for the year, including trainees



1) including employees of the Zeppelin GmbH, Accelerent GmbH, Z LAB GmbH and Klickparts GmbH companies; as at 12.31.2021; change in percent compared to 12.31.2020
2) based on headcount, as of 12.31.2021, change from 12.31.2020 as a percentage. For calculation reasons, rounding differences of one unit (€, % etc.) may occur in the tables and charts.

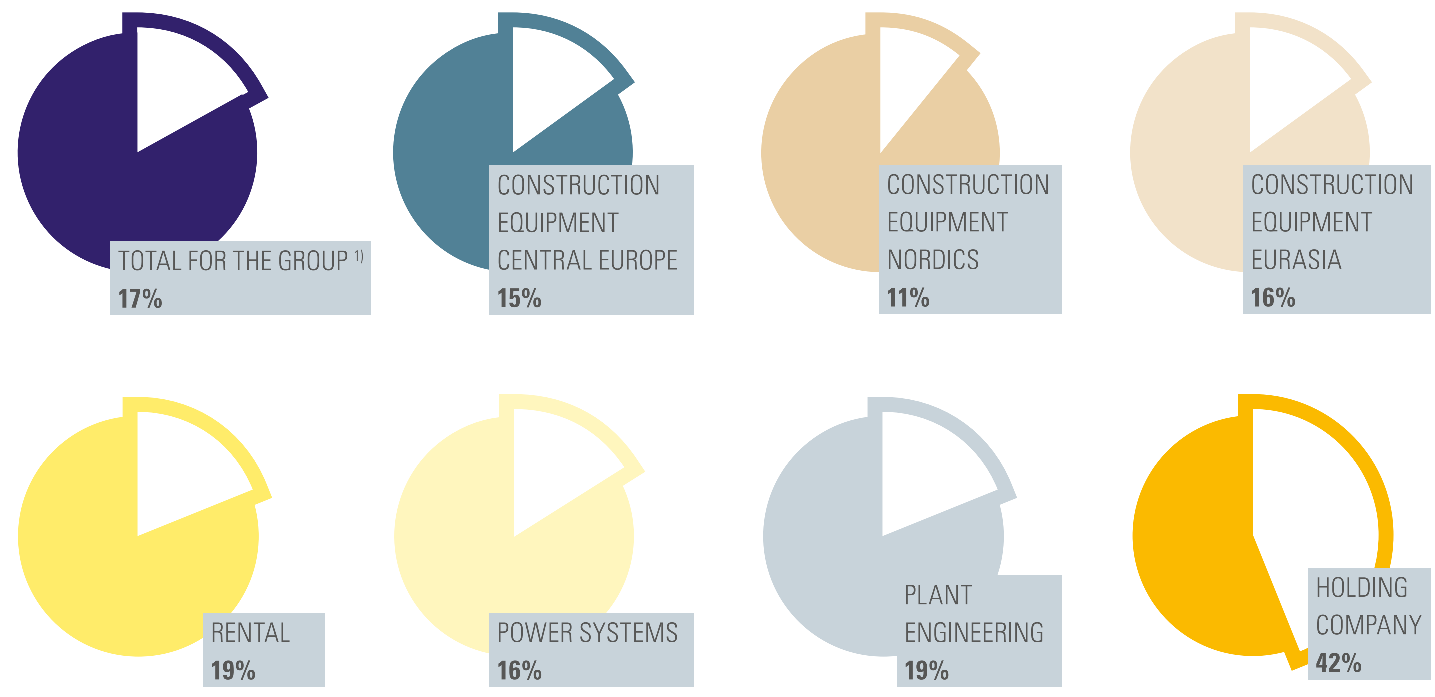
AGE DISTRIBUTION
as a percentage

	TOTAL FOR THE GROUP [1]	HOLDING COMPANY
<= 25 years	6%	3%
26-30 years	11%	15%
31-35 years	15%	18%
36-40 years	17%	15%
41-45 years	14%	15%
46-50 years	11%	16%
51-55 years	12%	9%
56-60 years	10%	8%
> 60 years	5%	1%

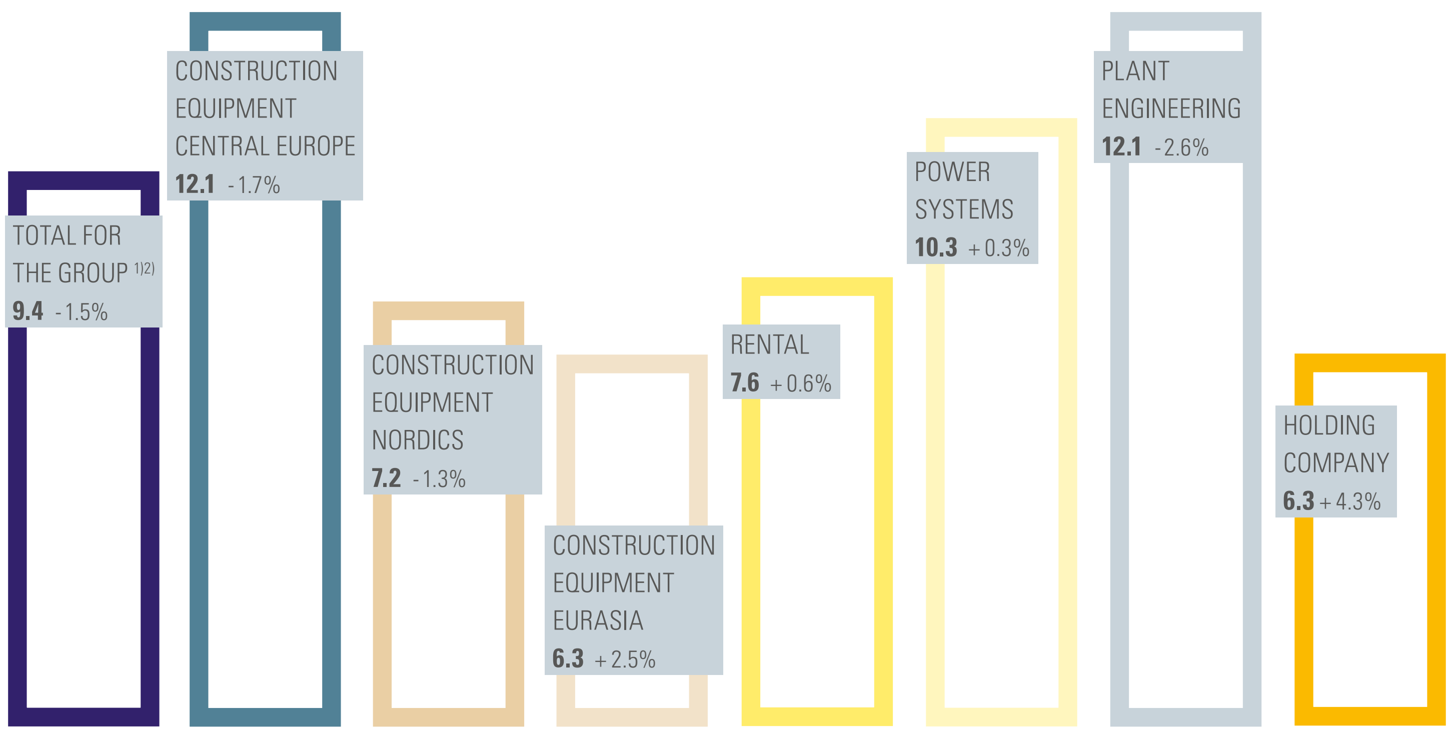
	CONSTRUCTION EQUIPMENT CENTRAL EUROPE	CONSTRUCTION EQUIPMENT NORDICS	CONSTRUCTION EQUIPMENT EURASIA
<= 25 years	9%	9%	3%
26-30 years	11%	11%	11%
31-35 years	13%	14%	23%
36-40 years	13%	11%	27%
41-45 years	11%	14%	17%
46-50 years	10%	11%	10%
51-55 years	14%	13%	5%
56-60 years	13%	11%	2%
> 60 years	5%	6%	1%

	RENTAL	POWER SYSTEMS	PLANT ENGINEERING
<= 25 years	5%	3%	4%
26-30 years	10%	7%	14%
31-35 years	15%	14%	12%
36-40 years	14%	17%	15%
41-45 years	16%	15%	11%
46-50 years	11%	12%	10%
51-55 years	13%	14%	13%
56-60 years	12%	12%	13%
> 60 years	4%	6%	9%

PROPORTION OF WOMEN EMPLOYEES
as a percentage



AVERAGE PERIOD OF EMPLOYMENT WITH THE COMPANY
in years



[1] including employees of Accelerent GmbH, Z LAB GmbH and Klickparts GmbH; as at 12.31.2021
[2] Percentage change compared with 12.31.2020

GROUP MANAGEMENT REPORT & GROUP FINANCIAL STATEMENTS 2021

CONSOLIDATED MANAGEMENT REPORT

OF ZEPPELIN GMBH AND THE GROUP FOR FISCAL YEAR 2021

A BUSINESS ACTIVITIES OF ZEPPELIN GMBH AND THE GROUP

The following management report is the Consolidated Management Report and Group Management Report for Zeppelin GmbH. It presents the business performance of the Zeppelin Group ("Zeppelin" or "Group") and Zeppelin GmbH, including the results for the fiscal year from January 1 to December 31, 2021 as well as the situation of the Group and Zeppelin GmbH as of December 31, 2021.

The Group Management Report is based on the figures according to IFRS. The section of the report relating specifically to Zeppelin GmbH is based on figures according to the German Commercial Code (HGB).

BUSINESS PURPOSE OF ZEPPELIN GMBH

The purpose of the company is the acquisition, holding and sale of participations in companies which, in particular, focus on the manufacture, processing, sale, rental, servicing and financing of construction machines and site equipment, engines and generator sets of all kinds as well as complementary components and services and of containers and plants for the handling and processing of powdery, granular and liquid materials and related engineering services.

The purpose of the company is also the acquisition, sale, rental and leasing of land and buildings and related transactions.

The shareholding structure of Zeppelin GmbH remained unchanged in the fiscal year. Luftschiffbau Zeppelin GmbH holds 96.25% and Zeppelin Foundation in administration of the city of Friedrichshafen holds 3.75% of the subscribed capital of Zeppelin GmbH of EUR 100.0 million.

At the end of the year, Zeppelin GmbH had 267 employees (previous year: 226, stated in full-time equivalents). The Supervisory Board consists of 12 members, which is formed on a parity basis in accordance with Section 7 of the German Codetermination Act.

STRATEGIC BUSINESS UNITS OF THE ZEPPELIN GROUP

The Group is operationally and strategically managed in six strategic business units ("SBUs"). This organizational structure ensures its ability to focus on individual markets, customer groups, and product segments while managing activities across multiple countries and companies. The SBUs are divided into Construction Equipment Central Europe ("CE"), Construction Equipment Eurasia, Construction Equipment Nordics, Rental, Power Systems, and Plant Engineering.

The business activities of the Construction Equipment CE, Eurasia and Nordics SBUs comprise the sale and servicing of Caterpillar construction machines, mining equipment, components as well as agricultural and forestry machinery of AGCO/Fendt and Ponsse brands. In Germany and various countries of Central, Northern and Eastern Europe and Central Asia, Zeppelin is the sales partner of Caterpillar Inc., headquartered in Peoria (Illinois/ USA). The sales territories of the other manufacturer partners are distributed across Central and Eastern European countries.

The Power Systems SBU sells Caterpillar diesel and gas engines as well as MaK brand marine engines. It provides a wide range of engineering and other services for drive and power solutions. The new engine business for MaK products will be discontinued by Caterpillar by the end of 2022. Zeppelin will continue to provide services for MaK products.

The Rental SBU rents out construction machines as well as a wide range of construction equipment, modular room systems, site and traffic guidance systems, work platforms, forklifts and lifts, and vehicles. A comprehensive range of services is also offered.

The activities of the Plant Engineering business unit involve globally developing, producing, implementing, and selling systems for producing and processing high-quality bulk materials for plastics, rubber and tires, food, and fine chemicals.

RESEARCH AND DEVELOPMENT

The Group's research and development activities relate primarily to the digitalization of new and existing business models, as well as projects in the field of alternative drives at the Power Systems SBU. Research and development costs in the reporting year amounted to EUR 1.7 million (previous year: EUR 3.3 million).

B BUSINESS REPORT

1 ECONOMIC CONDITIONS

MACROECONOMIC ENVIRONMENT

The COVID-19 pandemic has been affecting economic growth worldwide since the beginning of 2020, with varying impacts on individual economies. A number of countries, such as the USA and China, have already returned to pre-crisis levels of economic output. Other countries are, however, still lagging behind, including the four largest member states of the European Union: Germany, France, Italy, and Spain.[1]

With a zero-covid strategy, mass testing, quarantines, and entry restrictions, China has so far been able to largely prevent the outbreak of the pandemic and has benefited due to a very strong export economy. However, growth slowed significantly at the end of the year.[2]

The USA is also posting significant economic growth due to unprecedented fiscal and monetary support measures, including the approval of the American Rescue Plan by the US Congress in March 2021 and the passage of the Infrastructure Investment and Jobs Act in November 2021. Most recently, economic growth has, however, been hampered by supply problems and the Delta and Omicron variants of the COVID-19 virus.[3] The current US government has slightly relaxed the protectionist measures of the previous government, for example by switching punitive tariffs on EU steel and aluminum to a quota system.[4] However, the US special tariffs on Chinese products remained in force.[5]

Russia's economy was on the road to recovery in 2021. Despite high infection numbers in the fourth wave of the COVID-19 pandemic, the Russian government had imposed only partial lockdowns. In particular, the extended production quotas of OPEC+ countries until the end of 2022, together with significant price increases, ensured sharply rising budget revenues from oil exports.[6] The military escalation of the Ukraine conflict has resulted in massive international sanctions and reactions, which will have a severe impact on the Russian economy.[7]

Besides the course of the pandemic and the prescribed and self-imposed behavioral adjustments, politics also played an important role in the performance of the economy. The immediate consequences of the crisis were mitigated by the industrialized nations' expansive monetary and fiscal policies. In many places, further specific measures safeguarded employment, prevented corporate insolvencies, and avoided upheavals in financial systems.[8]

Rising immunization levels among the population were another important contribution to the economic recovery. However, this process was slowed by shortages of key intermediate products and by delivery delays.[9]

Due to the supply bottlenecks caused by the crisis, both inflation and inflation risks rose simultaneously, which was reflected in particular by an increase in prices on some commodity and goods markets. In addition, numerous one-off effects in Germany led to a rise in consumer prices, such as the reversal of the temporary VAT reduction that had applied from the second half of 2020, the new CO_2 tax introduced at the beginning of 2021, and the sharp year on year rise in energy prices.[10] In addition, the economy is increasingly facing a shortage of skilled workers, which in turn is leading to rising wage costs.[11]

Global economic output grew by 5.9% in 2021, which was a significant increase (previous year -4.4%) but the economic recovery remains highly dependent on how the pandemic unfolds from now on. The euro area remains slightly behind global development with a growth forecast of 5.0% (previous year -8.3%) but is clearly above the previous year's negative figure[12]. After a slump in the previous year (-6.0%), Germany recorded a significant increase in its growth rate to 3.1%. In the neighboring countries of Austria and the Czech Republic, the economic recovery was even more significant at 3.9% (previous year: -6.7%) and 3.8% (previous year: -6.5%) respectively. After a severe slump in the previous year (-7.1%), the Slovak Republic is now reporting an increase in its growth rate of 4.4%. In Poland, economic growth is 5.1% (previous year: -3.6%). Sweden is recovering from the previous year's slump with a growth rate of 4.0% (previous year: -4.7%). Denmark remains slightly below this level with 3.8% (previous year: -4.5%). With a growth rate of 4.7%, Russia is also clearly recovering compared with the previous year (-4.1%) but remains behind the global upturn. Despite the uncertain political situation, Ukraine recorded growth of 3.5% (previous year: -7.2%). Brazil's real GDP growth is forecast at 5.2% (previous year: -5.8%). At 6.0% (previous year: -4.3%), the USA is just above the global growth rate. An extraordinarily severe slump in the previous year

[1] Deutsche Bundesbank: "The global economy during the coronavirus pandemic" dated Nov. 2, 2021.
[2] Handelsblatt: "China strebt voraussichtlich Wachstum von 5,0 bis 5,5 Prozent an" [China likely to aim for growth of 5.0 to 5.5 percent] dated Feb. 17, 2022.
[3] GTAI Germany Trade & Invest, Wirtschaftsausblick USA [Economic outlook USA] dated Dec. 6, 2021.
[4] GTAI Germany Trade & Invest: "Update – USA und EU einigen sich bei Zusatzzöllen auf Stahl" [Update – US and EU reach agreement on additional tariffs on steel] dated Jan. 12, 2022.
[5] Focus Online: "Trumps Handelsdeal zahnlos: China importiert nach Abkommen sogar noch weniger" [Trump's trade deal toothless: China imports even less after agreement] dated Feb. 19, 2022.
[6] GTAI Germany Trade & Invest, Wirtschaftsausblick Russland [Economic outlook Russia] dated Dec. 9, 2021.
[7] WELT: "Im Falle einer militärischen Eskalation sind wir zu sehr weitreichenden Sanktionen bereit" [In the case of military escalation we are prepared for very far-reaching sanctions] dated Feb. 14, 2022.
[8] Deutsche Bundesbank: "The global economy during the coronavirus pandemic" dated Nov. 2, 2021.
[9] Deutsche Bundesbank: "The global economy during the coronavirus pandemic" dated Nov. 2, 2021.
[10] Wirtschaftsdienst / Volumes / 2021 / Issue 12 / Erholung der deutschen Wirtschaft kommt 2022 [Recovery of the German economy coming in 2022].
[11] tagesschau.de: "Corona-Pandemie: Wirtschaft steht an allen Fronten unter Druck" [Coronavirus pandemic: Economy under pressure on all fronts] dated Nov. 27, 2021.
[12] Europäische Kommission, ec.europa.eu: „Herbstprognose 2021: Von der Erholung zur Expansion trotz Gegenwinds“ [Autumn forecast 2021: From recovery to expansion despite headwings] dated Nov. 11, 2021.

(-10.3%) in India is now followed by an above-average recovery of 9.5%. China, at 8.0% (previous year: 1.9%), is also reporting a growth rate well above the global level.[13]

The European Central Bank (ECB) did not raise the key interest rate for the euro area in 2021 either despite high inflation rates. This means that the key interest rate has remained at the historically low level of 0% p.a. since March 2016 and the deposit rate for banks at the previous year's level of -0.5% p.a.[14] The ECB also did not change the scope of its bond-buying program in 2021. The emergency program, launched during the pandemic to buy government and corporate bonds worth EUR 1.85 trillion is set to be wound up at the end of March 2022 as planned. However, in order to avoid market turbulences, the ECB has created a transition mechanism in the form of a readjusted smaller purchase program.[15] The US Federal Reserve maintained its interest rate policy in 2021 with a target corridor of 0.0 to 0.25%, but is expected to raise the key interest rate in multiple steps to 1.25 to 1.5% by the end of 2022.[16] The extent to which the ECB will be able to fend off the interest rate increase trend in the USA in the long run remains to be seen and represents an additional economic risk for Europe.

The most important foreign currencies for the Group are the US dollar, the Russian ruble, the Ukrainian hryvnia and the Swedish krona. The US dollar started 2021 at an exchange rate of 1.23 USD/EUR and ended much higher at 1.13 USD/EUR. At the beginning of 2021, the ruble was still quoted at 91.47 RUB/EUR and had appreciated to 85.30 RUB/EUR by the end of the year. The Ukrainian hryvnia appreciated from 34.74 UAH/EUR to 30.92 UAH/EUR during the year. The Swedish krona was largely stable, moving from 10.03 SEK/EUR to 10.25 SEK/EUR in the same period.

Market Development

The 2021 construction year was marked by two different developments. While order entries increased significantly over the year, construction output slowed due to the ongoing COVID-19 pandemic and the increasingly severe shortage of building materials. The Hauptverband der Deutschen Bauindustrie e.V. (Confederation of the German Construction Industry) therefore forecasts only a slight nominal increase in turnover of 0.5% for 2021. This corresponds to a real drop of 6% on account of rising construction prices.

The markets that are important for the **Construction Equipment CE SBU** performed as follows in the reporting year: The ifo Business Climate Index for trade and industry in Germany fell from 96.6 points in November 2021 to 94.7 points in December in light of the worsening pandemic situation. The climate in the construction industry also deteriorated: In December 2021, the business climate indicator fell to 7.4 points, from 11.7 points in November. Companies assessed their current situation as less good and pessimism was also on the rise with regard to the coming months.

The utilization rate for machinery was of a high level of 78.3% in December (previous year: 77.6%). At the end of the year, the average order backlog in the construction sector remained at the very high November level of 4.7 months (December 2020: 4.2 months).

Austria's construction industry experienced a record year in 2021: On average for the year, the sector was expected to achieve an increase in turnover of around 14% and a turnover volume of more than EUR 61 billion. However, growth in both building construction and civil engineering cooled off from mid-2021, mainly due to the sharp increase in material shortages and the labor shortage, which is growing again. The good performance of the construction industry was also confirmed by the Wifo Business Cycle Survey, whose indices are consistently in the positive range during the year and in some cases achieved record values.

In the Czech Republic, construction output grew moderately by 2.0% in November 2021 (compared with November 2020), starting from a very weak basis for comparison with the previous year. Even though construction firms' order books are well filled, the industry continues to struggle with the consequences of the pandemic and from long approval procedures, material and labor shortages, and a sharp price increase.

In the Slovak Republic, domestic construction output fell by 3.6% in November 2021 compared with the same month of the previous year. It fell by 1.0% in building construction and 8.1% in civil engineering. Compared with 2019, the 'pre-coronavirus year', construction output recorded a marked decline of 15%.

The construction machine market was favorable, with significant growth rates in market volume in the individual markets of the Construction Equipment CE SBU. Government subsidy programs (investment grants and special depreciation allowances) in some countries, the booming construction industry, and full order books among customers are ensuring high levels of willingness to invest.

At the end of November 2021, the German construction machine market was 7.3% up on the previous year (Retail +8.0%, Rental +5.6%). Although order entry grew almost uninhibited in 2021, processing was hampered by severe bottlenecks in materials, primary products, components, and on the transport side; 36,083 new construction machines were sold in the German market.[17] The compact segment saw stronger growth (7.6%) than the standard and large machinery segment (+6.5%) in this period. The road construction machine segment grew by 4.5%. As in previous years, the retail/rental split was 72/28 in favor of the retail segment.

In Austria, following a downturn in the previous year, the total market (excluding telehandlers) grew by 38.2% to 2,654 units as of November 2021 (previous year: 1,920 units). In the Czech Republic, the total market (excluding telehandlers) also grew, reaching 2,601 units as of November 2021, an increase of 22.1% (2020: 2,130 units). Despite the decline in construction output, the construction machine market in the Slovak Republic grew by a significant 35.9% in the period January to November 2021 and stood at 704 units (previous year: 518 units).

The **Construction Equipment Eurasia SBU** continued to operate in a politically tense environment in 2021: The conflict between Russia and Ukraine increasingly came to a head and a military invasion of Ukraine by Russia could not be ruled out. There was a threat of massive tightening of existing US and EU sanctions against Russia, leading us to expect correspondingly severe counter-sanctions from the Russian side. The West's sanctions against Belarus remain unchanged. Despite the difficult market environment, the Construction Equipment Eurasia SBU performed very well in fiscal year 2021.

Gross domestic product in Russia grew by 4.4% in real terms in 2021. The Ukrainian economy grew by 3.3% in 2021. Construction output in Russia increased by 5.3% overall in 2021 (as of November 2021). The Russian mining industry grew by 3.0% (as of Q3 2021). In Ukraine, gross domestic product grew by around 3.0% in 2021. Construction output was almost constant in 2021 (+ 0.3%).

In Russia, the market volume for new construction machines and mining equipment increased by 49% year on year to 15,355 units (previous year: 10,448 units). In Ukraine, there was a 35% increase to 3,600 units (previous year: 2,700 units). The drivers of market growth included numerous government-funded infrastructure projects, positive developments in oil and commodity prices, and catch-up effects from the delayed demand for machinery from previous years.

The markets of the **Construction Equipment Nordics SBU** grew in both the construction machines and mining sectors. The indicator for the construction industry in Sweden increased by almost 14% in 2021 and was of 107.4 in December 2021 (December 2020: 94.5). In Denmark, the construction industry indicator rose by 5.9% (as of Q3 2021).

The Swedish construction industry is recovering well and expected to grow by 12% in 2021 compared with 2020. The Swedish market for construction machines and mining equipment as a whole was estimated at 4,642 units in 2021 (2020: 4,000 units), representing a significant increase.

The Danish construction industry benefited from brisk construction activity, as well as orders in the renovations sector. However, expectations were dampened by labor shortages and material shortages. Furthermore, the high demand seen during the COVID-19 crisis is increasingly fading. The Danish market for construction machines and mining equipment overall was estimated at 4,484 units in 2021 (2020: 4,317 units).

For the **Rental SBU** business segment, an increase in market volume is expected in all countries in 2021 according to the latest ERA Report. The rental market in Germany grows by 3.8% and in Austria by as much as 6.1%. With market growth of 3.6%, the Czech Republic is just below Germany's level. While the rental market in Denmark grew at 4.1%, growth in Sweden was rather restrained in comparison at 2.5%. Only the Slovak Republic is facing stagnating market volumes. This is due to a decline in construction output (with the exception of residential construction), which even public infrastructure projects were unable to offset.

The markets of the **Power Systems SBU** developed positively to stably in 2021. In the case of industrial engines, the SBU benefited from planned increases in production volumes by customers in all markets. In the electric power gas segment, the willingness to invest remains stable. Among other things, these solutions act as bridging technologies for the energy transition. Initial inquiries for hydrogen applications are on the rise. The market in the electric power invest segment continued to grow due to rising data volumes. Inquiries from large international market participants increased. Governmental and state-supported projects in the marine segment became increasingly important. However, growth prospects were frustrated by Caterpillar's ability to deliver and general materials shortages across all segments.

In 2021, the **Plant Engineering SBU** posted an increase or stable growth in its markets EU, USA and China. According to preliminary figures from the Verband Deutscher Maschinen- und Anlagebauer (German Mechanical Engineering Industry Association, VDMA), real mechanical engineering production growth in Germany for the first eleven months of 2021 was 6.6% year on year. Thanks to a number of large orders, order entry exceeded the previous year's level by 23%. Domestic orders increased by 16%, orders from abroad by 27%. According to the Verband der Chemischen Industrie (German Chemical Industry Association, VCI), production increased by 4.5% year on year. Thanks to a jump in producer prices (+ 8.5%), turnover rose by 15.5% to about EUR 220 billion.

The market recovery for the polyolefins product segment is increasing noticeably; in addition to rising demand activity, investment behavior also gradually adjusted. China retained its dominant role in the global plastics industry. The rubber segment posted steady growth in line with increasing demand in the automotive sector. In fiscal year 2021, the Plant Engineering SBU recorded its highest order entry to date. The very good development of the order entries led to a respectable order backlog, which provides an excellent basis for activity in the upcoming 2022 fiscal year.

[13] IMF World Economic Outlook Database, October 2021.
[14] Handelsblatt: "Trotz hoher Inflation: EZB hält an lockerer Geldpolitik fest – Ausblick bleibt unverändert" [Despite high inflation: ECB maintains loose monetary policy – outlook remains unchanged] dated Feb. 3, 2022.
[15] tagesschau.de: "EZB lässt Notprogramm auslaufen" [ECB lets emergency program expire] dated Dec. 16, 2021.
[16] tagesschau.de: "Zinswende in den USA: Was die Fed-Aussagen für die Börse bedeuten" [Interest rate turnaround in USA: What the Fed statements mean for the stock market] dated Jan. 27, 2022.
[17] This figure covers market entries from January to November inclusive.

2 Development of the Group's Business

Key Performance Figures for the Group

EUR million	2021	2020
Sales	3,695.6	3,271.7
Gross margin[18]	14.4%	14.8%
EBT	159.5	124.6
Return on sales[19]	4.3%	3.8%
Return on capital employed, YE[20]	8.0%	6.5%

Sales Development and Orders

In light of the prevailing conditions, fiscal year 2021 was very successful for Zeppelin. Group sales rose by 13.0% to EUR 3,695.6 million (previous year: EUR 3,271.7 million).

The SBUs that rent, sell, and service construction machines and mining equipment and engines saw their sales increase in fiscal year 2021 by EUR 381.0 million, or 12.4%. All SBUs were able to increase their sales year on year. The most significant sales growth was achieved by the Construction Equipment Eurasia SBU, with a 30.0% increase in sales. In its second year as a member of the Group, the Construction Equipment Nordics SBU generated significant sales growth of 13.3%. The sales of the Construction Equipment CE, Rental, and Power Systems SBUs were moderately above the previous year. Moreover, the Plant Engineering SBU also performed very well with an 11.0% increase in sales.

Sales by SBU

EUR million	2021	2020	Change %
Construction Equipment CE	1,494.2	1,373.3	8.8%
Construction Equipment Nordics	292.4	258.2	13.3%
Construction Equipment Eurasia	642.4	494.3	30.0%
Rental	576.1	527.8	9.1%
Power Systems	436.9	407.5	7.2%
Plant Engineering	339.9	306.1	11.0%
Group sales[21]	**3,695.6**	**3,271.7**	**13.0%**

In fiscal year 2021, a total of 20,004 machines, forklifts and engines were brought to market, corresponding to an increase of 14.8% year on year. While sales of new construction machines and mining equipment, forklifts, and engines increased by 1,293 units (+16.1%), 158 units (>+100.0%) and 771 units (+27.8%) respectively, sales of used construction machines and mining equipment decreased slightly by 167 units (-3.3%). At 1,500 units, the machines and forklifts brought to market for the first time for rental purposes were above the previous year's level (1,072 units).

Order entry for all group companies rose sharply to EUR 4,508.6 million (previous year: EUR 3,147.3 million). At EUR 1,768.9 million at year-end, the order backlog is also considerably above the previous year (EUR 955.9 million). The Plant Engineering SBU accounts for EUR 550.5 million (previous year: EUR 232.3 million).

Employees and Employee Development

Changes to the number of employees in the Group as of the reporting date, broken down by SBU, are presented below:

	12/31/2021	12/31/2020	Change %
Construction Equipment CE	2.811	2.740	2,6%
Construction Equipment Nordics	691	615	12,3%
Construction Equipment Eurasia	2.032	1.886	7,8%
Rental	1.802	1.710	5,4%
Power Systems	1.049	1.007	4,1%
Plant Engineering	1.586	1.570	1,0%
Trainees in the Group	361	362	-0,3%
Group[22]	**10.673**	**10.178**	**4,9%**

At the end of 2021, the foreign companies of the Group had 4,898 (FTE) employees (previous year: 4,631), corresponding to 45.9% of the overall workforce (previous year: 45.5%).

Information about the Proportion of Women

In accordance with the "Equal Participation of Women and Men in Leadership Positions in the Private and Public Sector Act", Zeppelin GmbH has set targets for increasing the proportion of women on the Supervisory Board, on the Management Board and at the senior management level. Because of its holding function, there is only one management level below the Management Board at Zeppelin GmbH. As of the reporting date of December 31, 2021, 33.3% of the Supervisory Board was comprised of women (target: 8.3%), while the Management Board had 25% (target: 0%) and 31.6% of department managers were women (target: 25%). The proportion of women and the deadline for achieving the target proportion for the Supervisory Board and Management Board were adopted at the Supervisory Board meeting of March 22, 2018. No changes were made to the target quotas for fiscal year 2021. In view of the proportions of women achieved, especially in the Supervisory Board and the Management Board of 25% each, and in view of the changes that are politically envisaged by the Equal Participation of Women in Leadership Positions in the Private and Public Sector Act (Second Leadership Positions Act – FüPoG II), the Management Board aims to have the Supervisory Board adjust the target figures accordingly in spring 2022.

[18] Gross margin = gross profit on sales / sales
[19] Return on sales = profit before tax / sales
[20] ROCE = EBIT / capital employed; capital employed = fixed assets + working capital
[21] Including Zeppelin GmbH, Accelerent GmbH, Z Lab GmbH and Klickparts GmbH, as well as consolidation effects
[22] Including Zeppelin GmbH, Accelerent GmbH, Z Lab GmbH and Klickparts GmbH

3 Important Activities During the Fiscal Year

ERP Project of the Zeppelin Group

Due to the strategic Group decision to roll out a new ERP system to other Group companies – and thus beyond the companies of the Construction Equipment CE SBU – and to switch to a new technology in the process, the decision was taken to transfer the central project management for the ERP implementation to the Group holding company Zeppelin GmbH and to locate it centrally. As part of this centralization, Zeppelin GmbH acquired from Zeppelin Baumaschinen GmbH the intangible asset capitalized at that company for a purchase price of EUR 16.4 million by way of a purchase agreement dated December 17, 2020, with effect from January 1, 2021. As the sale was made at the residual carrying amount, Zeppelin Baumaschinen GmbH did not incur any gain/loss on the disposal. Furthermore, Zeppelin GmbH will reimburse Zeppelin Baumaschinen GmbH for project expenses incurred but not capitalized, as well as an amortization totaling EUR 27.0 million under the reimbursement agreement dated and effective December 27, 2021. This reimbursement gives rise to other operating income at Zeppelin Baumaschinen GmbH at the aforementioned amount, which is transferred to Zeppelin GmbH under the profit transfer agreement between the two entities. From the Group's perspective, this transaction had no effect on earnings.

Energyst

The Rental SBU acquired the business activities of the Energyst Group for Germany and Sweden in fiscal year 2021. Energyst offers specialized rental solutions of Caterpillar power generators, and air conditioning technology for a wide variety of industrial applications. As part of the acquisition, Zeppelin Rental GmbH acquired the shares in Energyst Rental Solutions GmbH & Co. KG, Duisburg, Germany. In addition, Zeppelin Sverige AB acquired the shares in Energyst Rental Solutions AB, Gothenburg, Sweden. With the exit of the general partner, the assets of Energyst Rental Solutions GmbH & Co. KG were transferred to Zeppelin Rental GmbH by way of an accrual as universal succession during the year. In addition, Energyst Rental Solutions AB was merged into Zeppelin Sverige AB at the end of the year.

Acquisition of Mischtechnik International GmbH (MTI)

On January 1, 2021 the management company of the Plant Engineering SBU, Zeppelin Systems GmbH, acquired the main assets of MTI Mischtechnik International GmbH, Detmold, Germany, which was declared insolvent in 2020. The acquisition will further strengthen the market position in the mixer business and stabilize it for the future. Following the integration of the acquired employees and technologies, it has already been possible to generate additional business from this operation. Expanding business, driven in particular by the rapidly growing Chinese market and a major order in the automotive sector, has been handled to a very high standard thanks to the acquired capacities.

Corporate Social Responsibility (CSR)

To bring sustainability into greater focus throughout the Zeppelin Group, CSR activities were further expanded in 2021: For example, as part of the Group strategy call, the goals and measures relating to carbon neutrality were consolidated and supplemented with actions to cut waste and save fresh water. To tap new potential and involve all employees, a Z IDEA campaign called "Zeppelin's environmental footprint" was launched, with more than 100 ideas submitted for reducing energy, CO_2, waste, and water.

Zeppelin's commitment to sustainability is also underlined in its financing – in 2021, the defined targets agreed in the syndicated credit facility with the core banks in the so called 'green loan clause' were met. Zeppelin's first sustainability target in the green loan is to reduce energy consumption in relation to the number of employees by at least one percent in each year from 2020 to 2025 compared with 2019 as our base year. The second defined target provides for existing certification of the ISO 50001 energy management system in Germany, Austria, Poland, the Czech Republic and Slovak Republic in 2020 to 2025. By successfully achieving both targets, Zeppelin is gradually driving forward the reduction of its energy consumption – by switching to efficient technologies, promoting renewable energies through its own photovoltaic systems, and the energy-efficient refurbishment of existing properties. Further developing the ISO 50001 energy management system is an essential part of the activities relating to energy and the environment. Therefore, in 2021 in addition to a renewed confirmation of effectiveness in Germany, Austria, Poland, the Czech Republic and the Slovak Republic, the scope was successfully extended to Denmark and Sweden.

Acting responsibly, ethically, and lawfully together – this also applies to partners, suppliers, and service providers of the Zeppelin Group. To make cooperation even more sustainable, in 2021 the Zeppelin Group defined and published new standards in the form of its Supplier Code of Conduct. These guiding principles focus on compliance with social responsibility and human rights, environmental responsibility, ethical business conduct, and counter-terrorism and export control measures. The Code of Conduct already anticipates the legal requirements of the Duty of Care in Supply Chains Act, which comes into force in Germany from January 1, 2023.

In 2021, the Zeppelin Group published its second Sustainability Report. This report also documents the progress made as part of the UN Global Compact membership. The report complies with the internationally applicable standard of the Global Reporting Initiative (GRI) and underlines Zeppelin's commitment to CSR. The Group has also published a "CSR@Zeppelin" brochure, which provides a brief summary of the main contents of its sustainability management program. The report and the brochure are available on Zeppelin's website in German and English.

The Zeppelin Group also assumes responsibility in the area of social commitment and supported a large number of social, cultural, and sporting organizations and institutions in Germany and abroad in 2021. Particularly noteworthy is the donation of EUR 100,000 to the relief coalition "Deutschland hilft" for the victims of the flood disaster. For many years, the Zeppelin Group has regularly supported Zeppelin University in Friedrichshafen, founded in 2003. Since fair play and sportsmanship are firmly anchored in Zeppelin's corporate culture, the promotion of sports, and team sports in particular, is a special cause for the Group, which is why Zeppelin has been sponsoring VfB Friedrichshafen in volleyball, football, and badminton for many years.

Diversity

The Diversity department was established at Group management level in 2020. To underline the increasing importance of this topic, the Z COLOURFUL initiative was launched, which deals with the inclusion of diversity and equal opportunities, and as such not only represents an adaptation to a changed working world, but also highlights diversity as a critical factor for success: diverse teams help to reflect better, act more creatively, and make decisions more astutely. An important milestone here was the announcement that Group management has signed the Diversity Charter as part of the virtual WE ARE COLOURFUL action week, through which Zeppelin declared its commitment to specifically promoting inclusion and diversity. In 2021, there were again many actions and measures on the theme of inclusion and diversity. To embed the topic even more firmly into the organization and to cover area-specific needs, diversity ambassadors were appointed who, in addition to the works councils, will further promote the topic in 2022. In addition, Zeppelin is a founding partner of Employers for Equality, a program of PANDA GmbH for Gender, Equality & Diversity in companies that promotes equality and actively advances progress in business and society. These memberships promote Zeppelin's visibility among professionals and experts and also increase its attractiveness as an employer.

Other Important Events for the SBUs

The COVID-19 pandemic continued to have a major impact on trade fairs and events relevant to the **Construction Equipment CE SBU** in 2021. Of the companies that make up the SBU, none participated as an exhibitor at trade fairs, with the exception of SITECH Deutschland GmbH, which attended the NordBau fair.

The working group of ARGE SKW Kühtai ordered 16 large Cat machines from Zeppelin Österreich GmbH for the construction of the storage power plant in Kühtai. The machinery package also includes a full-service contract with a term of five years. Given the scope, one to two service technicians will regularly accompany the machine operation in Kühtai throughout the construction phase. There is a consignment store for spare and wearing parts as well as lubricants on site.

There were extensive innovations in the product groups of the Cat product portfolio. For example, a new generation of mobile excavators and mini excavators were launched. The latest generation of tracked excavators continued to enjoy buoyant sales. These machines have electro-hydraulic pilot control and numerous assistance systems that increase the machines' efficiency. The first models of a new generation of wheel loaders with efficiency-enhancing assistance systems were also launched. Two new models were added to the XE series, with its highly effective power-split transmission. The 53-metric-ton Cat 988K XE wheel loader, with its diesel-electric drive system, which is unique among wheel loaders, also had a very good reception. Due to its significantly reduced fuel consumption and the resulting cut in CO_2, the machine qualifies for public subsidy measures, which companies in the mining industry interested in becoming more sustainable were eager to take up.

The foundation stone for the new headquarters of Zeppelin SK s.r.o. was laid near the capital Bratislava on March 18, 2021. With excellent transport links between Bratislava and Trnava, a modern site is being built on an area of 14,400 m² and will offer the standard services of various SBUs. Construction work is scheduled to be completed and the move planned for the first quarter of 2022.

In terms of digitalization, various new developments took place in the reporting year. For example, commercial customers can now use the Zeppelin Cat online shop to configure and purchase construction machines and accessories online and to lease new machines from Cat Financial. Zeppelin Service is also making increasing use of digital tools to expand its services and improve the efficiency of the sales force. For remote support, special augmented reality glasses are being developed together with an external partner; these establish live contact with the central service team and assist service technicians in the field in diagnosing and fixing complex faults. More and more new-generation Cat machines also enable remote fault diagnosis and the uploading of new system software, which significantly reduces start-up and repair times.

The **Construction Equipment Nordics SBU** successfully launched the 'Service Excellence' project in conjunction with Caterpillar. The aim of the project is to continuously grow the spare parts business and offer new, innovative service solutions to our customers.

The new construction project for the new head office in Gothenburg, Sweden remains on schedule. The preparation of the tender documents is proceeding according to schedule. The tender process is set to start in March 2022.

Zeppelin Sverige AB also has a comprehensive safety initiative to improve occupational safety. In addition to analyzing the current situation, it has also defined long-term safety targets.

The **Construction Equipment Eurasia SBU** started construction work on the new headquarters in Kiev, Ukraine, in the second quarter of fiscal year 2021. The project is on track in terms of quality, time, and budget and is scheduled to be completed in 2022. Due to the military escalation between Russia and Ukraine, construction work has been suspended for the time being.

The BIG PUSH project, which the SBU launched in 2020 and continues to pursue intensively, is intended to significantly expand the spare parts and customer service business by the end of 2025 and improve the effectiveness of the entire after-sales business. This project is being given the highest priority. Implementation of the strategy for the profitable development of the agricultural machinery segment is also proceeding according to schedule.

The **Rental SBU** was again honored by Caterpillar in fiscal year 2021. One such accolade was gold status awarded to Zeppelin Rental GmbH in the *"Caterpillar Heavy Rents Excellence Program."*

In addition to the acquisition and integration of the acquired Energyst companies in Germany and Sweden, mentioned above, all assets and liabilities of the Traffic Safety and Telematics division of Luther HL GmbH & Co KG were transferred to Zeppelin Rental GmbH as part of a restructuring under company law on July 31, 2021. As part of this process, the shares that Luther HL GmbH & Co. KG held in Meton GmbH were also transferred to Zeppelin Rental GmbH. Furthermore, Meton GmbH sold its safety barrier rental business to Zeppelin Rental GmbH as part of an asset deal. With effect from August 1, 2021, Zeppelin Rental GmbH transferred all shares in Luther HL GmbH & Co. KG to Meton GmbH. With the exit of Luther Verwaltungs GmbH from Luther HL GmbH & Co. KG on September 1, 2021, the assets of Luther HL GmbH & Co. KG were transferred to Meton GmbH by way of an accrual as universal succession.

In the course of this restructuring, the 'Spurwechsel' [lane change] project was launched to optimize the entire area of construction site and traffic safety. The aim of this project is to enable scalable growth and to meet future market demand and customer requirements (digitalization of traffic infrastructure, traffic technology, Autobahn GmbH, and competitive situation).

As in other countries, the rental business was further expanded in Denmark. A new rental store was opened in Frederica, Denmark. A new rental store was also opened in Inzing (Tyrol), Austria.

The manufacturer partner Caterpillar announced in July 2021 that it would cease building new medium-speed MaK engines by the end of 2022 and would in future focus exclusively on after-sales service. The **Power Systems SBU** will therefore no longer sell new engines of the MaK brand in future but will fulfill existing orders and continue to be available to customers with existing MaK engines with a comprehensive range of services and the worldwide service network.

In addition to Caterpillar new engine sales and service activities for Caterpillar and MaK engines, the focus in 2021 was on expanding digital business models and on alternative drives and fuels. After evaluating various cooperation opportunities for portfolio expansion, Zeppelin Power Systems entered into two partnerships in the fuel cells segment. In addition, the SBU received its first inquiries for hydrogen applications. In the future, Zeppelin Power Systems will offer gas engines for combined heat and power generation in decentralized CHP plants that run on up to 100% hydrogen.

The downward merger of Zeppelin Power Systems GmbH & Co. KG into Zeppelin Power Systems GmbH was completed on September 7, 2021, bringing to a close the change of legal form into a corporation. This was followed by the conclusion of a control and profit or loss transfer agreement with Zeppelin GmbH.

In addition to the above-mentioned acquisition of MTI, the **Plant Engineering SBU** was able to win projects in the area of battery mass processing and establish itself in important future technologies.

The strategic expansion of the portfolio is also reflected in management's decision to systematically develop the market for malting plants and breweries in the area of food processing plants. A first major success has already been achieved with the award of the largest malting plant project in Brazil at the end of 2021.

The decision taken by Zeppelin Systems Gulf Co. Ltd. in Saudi Arabia in 2020 to exit the relatively low-margin NDT business (services for non-destructive crack testing) was implemented by selling it to a local interested party in 2021.

At the beginning of 2021, the decision was made to merge both Italian companies, Zeppelin Systems Italy Srl. based in Milan and Nuova CIBA S.p.A. based in Reggio Emilia, acquired in 2018, into one company. In light of this, the remaining shares in Zeppelin Systems Italy Srl. held by third parties were acquired from shareholders in 2021. The implementation of the merger has been prepared and is expected to be completed by mid-2022.

4 Results of Operations, Financial Position, and Net Assets of the Group

Results of Operations

The condensed consolidated statement of profit and loss as of the reporting date is as follows:

EUR million	2021	2020	Change	Change %
Sales	3,695.6	3,271.7	423.8	13.0%
Cost of sales	-3,162.8	-2,786.2	-376.6	13.5%
Gross profit on sales	532.8	485.5	47.2	9.7%
Selling expenses and general administrative expenses[23]	-385.0	-352.0	-33.0	9.4%
Other income and expenses[24]	21.5	8.7	12.8	>100%
Profit before net financial result	169.3	142.2	27.1	19.0%
Net financial result	-9.8	-17.6	7.8	-44.4%
Net profit before tax	159.5	124.6	34.9	28.0%
Income taxes	-41.5	-33.1	-8.4	25.4%
Net profit after tax[25]	118.0	91.5	26.5	28.9%

Business performance was extremely positive overall. Even though the COVID-19 pandemic is still a factor, fiscal year 2021 was nevertheless marked by a noticeable recovery in Zeppelin's markets. Zeppelin was able to successfully participate in this development and increase Group sales by 13.0% year on year (EUR 3,695.6 million; previous year: EUR 3,271.7 million).

EUR million	2021	2020	Change %
Cost of materials	-2,527.0	-2,240.2	-12.8%
Personnel expenses	-426.9	-380.1	-12.3%
Depreciation	-72.8	-58.9	-23.7%
Other expenses	-136.1	-107.0	-27.2%
Group cost of sales	**-3,162.8**	**-2,786.2**	**-13.5%**

In the same period, cost of sales increased almost commensurately with this by rising 13.5% to EUR 3,162.8 million. The increase was due in particular to the volume-related increase in the cost of materials and higher personnel expenses. The latter in particular were due to an increased number of employees, general salary increases, and higher variable compensation as a result of the improved earnings situation. Gross profit on sales rose by 9.7% to EUR 532.8 million. The gross margin of 14.4% was virtually on par with the previous year (14.8%).

[23] Including research and development expenses
[24] Including impairments on financial instruments and contract assets (net) as well as the result from companies accounted for using the equity method
[25] Including non-controlling interests

At EUR 385.0 million, selling and general administrative expenses were EUR 33.0 million higher than in the previous year. The increase was due in particular to higher wages, salaries, and social security contributions. Moreover, the pandemic-related savings in the previous year were even more pronounced than in 2021.

At EUR 21.5 million, the balance of other income and expenses was clearly above the previous year's level (EUR 8.7 million). This was due in particular to lower currency losses and higher income from the reversal of provisions.

At EUR -9.8 million, the net financial result significantly improved year on year (previous year: EUR -17.6 million). This included an improvement in the interest result of EUR 2.2 million (EUR -13.0 million; previous year EUR -15.2 million), which was mainly due to lower expenses from interest rate derivatives. Furthermore, the other financial result increased from EUR -2.4 million to EUR 3.2 million, which was due to currency effects and higher income from participations.

Changes to net profit before tax for the fiscal year, broken down into SBUs, are presented below:

EUR million	2021	2020	Change %
Construction Equipment CE	78.9	64.0	23.3%
Construction Equipment Nordics	1.0	-2.0	>100%
Construction Equipment Eurasia	38.7	28.7	34.9%
Rental	51.7	46.7	10.8%
Power Systems	21.4	14.5	48.3%
Plant Engineering	2.1	5.8	-64.3%
Consolidated net profit before tax[26]	**159.5**	**124.6**	**28.0%**

Consolidated net profit before tax rose by EUR 34.9 million to EUR 159.5 million (previous year: EUR 124.6 million). The return on sales increased from 3.8% in the previous year to 4.3% in the fiscal year. The return on equity[27] before tax was 16.8%; the comparable total return on capital[28] was 5.9%. The return on capital employed (ROCE) was 8.0% compared with 6.5% in the previous year.

Income tax expense was EUR 41.5 million (previous year: EUR 33.1 million). Deferred tax liabilities increased in particular due to the utilization of special depreciation allowances on software. Correspondingly, current income taxes decreased, which is why the tax rate of 26.0% was almost constant compared with the previous year (26.6%). Consolidated net profit after tax was EUR 118.0 million. This exceeded the previous year's result by EUR 26.5 million.

[26] Including Zeppelin GmbH, Accelerent GmbH, Z Lab GmbH and Klickparts GmbH, as well as consolidation effects
[27] Return on equity = profit before tax / [(equity in previous year + equity in year under review) / 2]
[28] Total return on capital = profit before interest and tax / [(balance sheet total of previous year + balance sheet total of reporting year) / 2]

Financial Position

Capital Structure

Changes to the Group's **capital structure** are presented below:

LIABILITIES Proportion in % of balance sheet total	2021 IFRS	2020 IFRS
Balance sheet total in EUR million	**2,988**	**2,773**
Current liabilities		
Financial liabilities, trade payables, other financial liabilities	12.9%	12.8%
Contract liabilities	8.7%	5.6%
Employee benefits	3.7%	3.8%
Miscellaneous	6.1%	6.2%
Non-current liabilities		
Financial liabilities, trade payables, other financial liabilities	23.4%	27.9%
Contract liabilities	0.8%	0.6%
Employee benefits	5.6%	6.4%
Miscellaneous	5.0%	4.6%
Equity	33.8%	32.1%

Current liabilities as of December 31, 2021, were EUR 936.9 million, an increase of EUR 149.6 million. They consisted primarily of financial liabilities (EUR 114.1 million; previous year: EUR 105.3 million), trade payables (EUR 150.3 million; previous year: EUR 130.9 million), other financial liabilities (EUR 121.1 million; previous year: EUR 119.4 million), and contract liabilities (EUR 259.0 million; previous year: EUR 154.9 million). The latter increased in particular due to significantly higher advance payments from customers.

Non-current liabilities as of December 31, 2021, stood at EUR 1,042.2 million, having decreased by EUR 53.5 million. They consisted primarily of financial liabilities (EUR 530.7 million; previous year: EUR 609.7 million), other financial liabilities (EUR 168.5 million; previous year: EUR 164.6 million), and employee benefits (EUR 168.5 million; previous year: EUR 177.5 million).

The reduction in financial liabilities is due in particular to the repayment of bank liabilities. This was made possible by good working capital management and a better earnings situation.

Equity increased by EUR 119.4 million to EUR 1,009.3 million in the fiscal year (taking into account positive currency translation differences of EUR 13.8 million; previous year: EUR -20.5 million). As in the previous year, currency translation differences mainly resulted from exchange rate movements in the Russian ruble, Ukrainian hryvnia, Czech koruna, and US dollar. With total assets rising by 7.8% to EUR 2,988.4 million, the equity ratio[29] improved to 33.8% (previous year: 32.1%). The total non-current financial resources of EUR 2,051.5 million (previous year: EUR 1,985.6 million) exceeded non-current assets by EUR 421.1 million (previous year: EUR 397.5 million), which corresponds to an asset coverage[30] of 125.8% (previous year: 125.0%). They therefore also covered 70.8% (previous year: 74.6%) of the inventories.

[29] Equity ratio = ratio of equity to total capital

[30] Asset coverage = non-current financial resources / non-current assets

Significant Financing Instruments

At the end of 2021, a syndicated credit facility that was originally taken out in 2011 and extended prematurely and increased in 2019 was available to the Group as a significant financing instrument. The term of the syndicated credit facility is five years (ends on December 10, 2024) and includes a prolongation option of one year on two occasions. The credit is available for cash drawdowns (EUR 500.0 million) and for providing guarantees (EUR 200.0 million). As of the end of 2021, a total of EUR 207.9 million (including EUR 138.1 million for guarantees), or 29.7% (previous year: 29.8%) had been utilized. In addition, at the end of 2021 the Group had additional bank credit lines of around EUR 124.6 million, of which it had utilized EUR 3.5 million.

The credit lines of EUR 150 million with the Group's five core banks, opened as a highly precautionary measure due to the COVID-19 pandemic in summer 2020, were not extended due to the lack of utilization, despite the one-time extension option of a further six months.

Furthermore, the Group finances itself over the long term through the issuance of bonded loans. At year-end, the total volume of outstanding bonded loans was EUR 249.5 million (previous year: EUR 242.5 million). The Group again adhered to the financial covenants that were agreed and determined on the basis of its financial data in connection with the syndicated credit facility and bonded loans in 2021. Creditreform Rating AG confirmed the Group's rating of "A" in October 2021 and adjusted the outlook from negative to stable despite the ongoing COVID-19 pandemic. The rating agency's stable assessment is based on solid financial ratios, sufficient cash flows from operating activities, good capital market capabilities, prudent financial management, and Zeppelin's leading market position.

The companies of the Construction Equipment CE, Construction Equipment Nordics, Construction Equipment Eurasia, and Power Systems SBUs continued to have access to extensive credit facilities at Caterpillar Financial Services and other sales financing and leasing companies in order to finance sales in Germany and abroad. In addition, asset leasing is used to finance vehicles as well as IT hardware and software. The extensive investments in the rental fleets in fiscal year 2021 were financed from current cash flow and debt recognized in the balance sheet.

Liquidity

The development of cash and cash equivalents at the end of the fiscal year is shown in the following condensed consolidated cash flow statement:

EUR million	2021	2020
Cash flow from operating activities	240.1	259.6
+ Cash flow from investing activities	-53.4	-43.6
+ Cash flow from financing activities	-137.9	-124.2
= Changes in cash and cash equivalents	**48.8**	**91.7**
+ Cash and cash equivalents at the beginning of the period	**157.3**	**68.9**
+ Foreign exchange rate differences in cash and cash equivalents	5.3	-3.3
= Cash and cash equivalents at the end of the period	**211.4**	**157.3**

Cash and cash equivalents increased by EUR 54.1 million compared with the previous year, due to good business performance and working capital management.

After the positive business performance allowed the restrictive investment policy, introduced as part of the previous year's COVID-19 crisis management, to be relaxed again, the cash flow from investing activities increased from EUR -43.6 million to EUR -53.4 million. This was reflected in particular in property, plant, and equipment (excluding rental fleet), where investments were increased year on year by EUR 10.6 million.

Cash flow from financing activities rose by EUR 13.7 million to EUR -137.9 million. While cash outflows from the repayment of current and non-current financial liabilities were not quite as high as in the previous year (EUR 48.9 million; previous year EUR 56.3 million), this effect was more than offset by significantly lower inflows from sale-and-leaseback transactions.

At EUR 240.1 million, cash flow from operating activities was below the previous year (EUR 259.6 million). The main reason for this was the increase in inventories (EUR -73.7 million; previous year: EUR 57.2 million) and the increase in trade receivables (EUR -52.1 million; previous year: EUR 45.1 million). This more than offsets negative developments in the form of higher other financial liabilities and other liabilities (EUR 150.0 million; previous year EUR -31.8 million), as well as a higher net profit after tax for the year (EUR 118.0 million, previous year EUR 91.5 million).

INVESTMENTS

EUR million	2021	2020	Change %
Intangible assets	10.4	10.3	1.3%
Land and buildings	15.5	11.4	35.5%
Operating and business equipment including technical equipment	41.9	33.6	24.8%
Investments in financial assets	8.9	1.2	>100%
Total investments excluding rental fleet	**76.7**	**56.4**	**35.9%**
Investments in the rental fleet	172.0	146.8	17.2%
Total investments including rental fleet	**248.7**	**203.3**	**22.4%**

Total investments in property, plant and equipment, financial assets, and intangible assets amounting to EUR 248.7 million (including EUR 172.0 million in the rental fleet) were offset in the fiscal year by scheduled depreciation of EUR 163.5 million, which thus covered 65.7% of total investments (previous year: 78.0%). The increase in investments was due to the restrictive investment policy in the previous year in connection with coronavirus crisis management measures.

NET ASSETS

Structurally, the Group's assets are broken down as follows:

ASSETS Proportion in % of balance sheet total	2021 IFRS	2020 IFRS
Balance sheet total in EUR million	**2,988**	**2,773**
Current assets		
Cash and cash equivalents	7.1%	5.7%
Financial assets, trade receivables	15.1%	14.6%
Contract assets	1.3%	1.4%
Inventories	19.9%	19.2%
Miscellaneous	2.0%	1.8%
Non-current assets		
Financial assets, trade receivables	1.2%	1.4%
Intangible assets; property, plant, and equipment	48.0%	50.5%
Miscellaneous	5.4%	5.4%

The balance sheet total of the Group increased in the fiscal year by EUR 215.5 million to EUR 2,988.4 million. This is due in particular to business-related higher inventories (EUR +61.8 million), an increase in trade receivables due to the positive business performance (EUR +52.6 million), higher cash and cash equivalents (EUR +54.1 million), and additions to property, plant, and equipment (EUR +40.0 million).

At 1.3 p.a., capital turnover[31] was slightly above the previous year (1.2 p.a.). At the end of 2021, the days of sales outstanding was virtually unchanged as of the reporting date to 36.7 days (previous year: 36.9 days[32]).

The rights of use to leased assets are also reported under property, plant, and equipment.

COMPARISON OF CURRENT SITUATION WITH FORECAST

The financial performance indicators used to manage the Group are sales revenue, profit or loss before tax, and ROCE.

EUR million	2021	2020	2020 Forecast
Sales	3,695.6	3,271.7	moderate decline
Net profit before tax	159.5	124.6	significant decline
ROCE	8.0%	6.5%	moderate decline

All performance indicators for 2021 showed growth compared with the previous year. While the ROCE shows moderate growth, sales grew significantly and the net profit before tax rose strongly. The deviations from the forecast were mainly due to the limited impact of the COVID-19 pandemic and the healthy construction market. In the previous year, the ability to forecast was significantly limited on account of the uncertain pandemic situation. Contrary to expectations at the time, the markets grew much more strongly than expected.

5 RESULTS OF OPERATIONS, FINANCIAL POSITION, NET ASSETS OF ZEPPELIN GMBH

RESULTS OF OPERATIONS

Zeppelin GmbH's sales increased by EUR 3.4 million to EUR 47.8 million in 2021 (previous year: EUR 44.4 million). In particular, the onward charging of IT services and licenses rose by EUR 3.1 million to EUR 22.2 million. This was due to the use of a new ERP system deployed in previous years by Zeppelin Österreich GmbH. In addition, Zeppelin GmbH mainly generated sales from the rental of land and buildings of EUR 18.4 million (previous year: EUR 18.3 million).

Other income increased by EUR 2.5 million to EUR 8.1 million (previous year: EUR 5.6 million). The increase compared with the previous year was due in particular to income from the reversal of provisions of EUR 6.3 million (previous year: EUR 1.5 million).

The income from participations was EUR 36.1 million (previous year: EUR 48.6 million), having decreased by EUR 12.5 million, in particular due to lower dividend distributions from Zeppelin International AG, Switzerland.

Expenses for purchased services were around EUR 3.8 million higher than in the previous year, at EUR 12.7 million. This was mainly due to higher expenses for cloud computing (software as a service), for example from the introduction of Workday.

Personnel expenses rose by EUR 8.2 million year on year to EUR 37.9 million (previous year: EUR 29.7 million). This was due on the one hand to an increase in the number of employees and on the other to higher bonuses and variable employee compensation.

Amortization of intangible assets and depreciation of property, plant and equipment were significantly higher than in the previous year (EUR 16.1 million; previous year: EUR 8.8 million). This was mainly due to the regular amortization of the ERP system acquired from Zeppelin Baumaschinen GmbH on January 1, 2021. The transfer of the ERP system is explained in more detail in the section "Important Activities During the Fiscal Year ".

Other operating expenses rose by EUR 36.4 million to EUR 57.2 million, due in particular to the reimbursement of project costs of EUR 27.0 million to Zeppelin Baumaschinen GmbH in connection with the transfer of the ERP system, and the allocation to provisions for onerous contracts in the context of the termination of the hedging relationship of an interest rate hedge of EUR 3.9 million.

The interest result – excluding income from loans classified as fixed financial assets – amounted to EUR -2.1 million in the fiscal year, a decline on the previous year (EUR -0.9 million). This was mainly due to lower interest income from affiliated companies (EUR 5.5 million; previous year EUR 6.8 million).

Net profit before tax fell year on year to EUR 98.8 million (previous year: EUR 117.3 million). This was due primarily to the higher scheduled amortization from the acquisition of the ERP system, the reimbursement of ERP project costs to Zeppelin Baumaschinen GmbH, and lower participations income and higher losses from profit pooling agreements. This contrasts with higher profits from profit pooling agreements, resulting in particular from the reimbursement of SAP project costs to Zeppelin Baumaschinen GmbH of EUR 27.0 million.

Net profit after tax for the year was EUR 85.7 million (previous year: EUR 98.3 million). Income taxes amount to EUR 12.7 million (previous year: EUR 19.0 million). The previous year's income tax expense was affected by additional risk provisions for the tax audit.

[31] Capital turnover = sales revenue / [(previous-year balance sheet total + reporting year balance sheet total) / 2]

[32] Changed definition compared with the previous year; calculation using invoiced sales to third parties over the last 3 months, extrapolated to one year.

Financial Position

The financial strategy is derived from the business purpose of Zeppelin GmbH (the holding of participations, rental of land, buildings and technical equipment owned by the company to affiliated companies and the financing of the Group). The long-term commitment of funds to property, plant, and equipment and financial assets (64.1% of assets) should correlate as far as possible with matching financing on the liabilities side of the balance sheet. Here, the creation of equity from retained profits is an important source of funding.

Zeppelin GmbH's absolute equity rose to EUR 763.6 million (previous year: EUR 693.6 million) as a result of the strong increase in the disposable profit in the reporting year and amounts to 64.5% of the balance sheet total (previous year: 61.9%). The long-term funds come to EUR 280.0 million (23.7% of the balance sheet total) and consisted of pension provisions (EUR 35.0 million) and liabilities to banks[33] (EUR 245.0 million). Current funds included provisions (EUR 23.3 million), liabilities to banks (EUR 6.0 million), trade payables (EUR 2.9 million), liabilities to affiliated companies (EUR 92.9 million, mainly from investing affiliates' funds and cash-pooling), as well as other liabilities (EUR 14.7 million).

Fiscal year 2021 saw EUR 108.8 million (previous year: EUR 68.1 million) invested. Of this, EUR 80.0 million related to the extension and increase of loans to affiliated companies.

Net Assets

Zeppelin GmbH's assets consists primarily of participations of EUR 505.5 million (previous year: EUR 505.6 million), loans to affiliated companies of EUR 100.3 million (previous year: EUR 80.3 million), land, buildings and assets under construction of EUR 109.7 million (previous year: EUR 110.5 million), and software of EUR 15.4 million (previous year: EUR 4.5 million). These assets thus correspond to 61.8% (previous year: 62.5%) of the balance sheet total, which rose to EUR 1,183.5 million (previous year: EUR 1,120.6 million). Receivables from affiliated companies rose by EUR 44.0 million to EUR 356.9 million (previous year: EUR 312.9 million). In the same period, cash and cash equivalents decreased by EUR 12.5 million to EUR 74.3 million. Non-current assets of EUR 744.1 million (previous year: EUR 711.7 million) were offset by non-current liabilities of EUR 1,043.6 million (previous year: EUR 1,017.0 million) as of December 31, 2021. The latter consist of equity, pension provisions, and non-current liabilities. Long-term asset coverage[34] fell slightly from 142.9% to 140.2%. This was due in particular to the high additions to intangible assets and to financial assets.

Investments in property, plant, and equipment amounted to EUR 6.0 million (previous year: EUR 5.8 million). Of this amount, EUR 4.6 million (previous year: EUR 3.2 million) related to land, buildings, equipment, and assets under construction, which are rented to associates. This mainly involves investments in properties and buildings that are leased to Zeppelin Rental GmbH and Zeppelin Baumaschinen GmbH.

Comparison of Current Situation with Forecast

The main financial performance indicator for Zeppelin GmbH is the net profit or loss.

In the previous year, a significant decline in the net profit was forecasted under IFRS. This decline did not materialize, with net profit under IFRS of EUR 93.3 million (forecast: EUR 69.8 million), due in particular to better results from profit transfer agreements.

C Opportunity and Risk Report

1 Risk Report

General Aspects

As an internationally active corporate group, Zeppelin is exposed to various risks. In particular, macroeconomic and industry-specific risks, performance-related, personnel-related and financial risks must be taken into account. The risks presented below apply equally to Zeppelin GmbH and the Group.

Macroeconomic and Industry-Specific Risks

Because of the broad range of countries, industries and business models in which the Group is active, the macroeconomic and industry-specific risks are broadly distributed.

Zeppelin is one of the largest worldwide dealers selling Caterpillar construction and mining equipment as well as engines. Although the dealership agreement between Caterpillar and Zeppelin can be terminated at relatively short notice, no substantial risk is seen here because of the extremely successful partnership between the two companies for more than 65 years. Zeppelin is also the market leader in leasing a broad array of construction machines and equipment, including complementary products and services in the relevant markets. In its target industries, including construction, energy, and shipping, there is some risk of defaults on receivables, which is countered by effective receivables and credit management. Appropriate account is taken of existing currency risks through currency hedging activities and proactive currency management.

The markets served by the Plant Engineering business unit are very diversified and include companies in the international rubber and tire industry, plastics producers and processors, and the food industry around the world. In fiscal year 2021, new markets were also opened up in the areas of battery mass production and plastics recycling. In order to reduce its risks from defaults on receivables, the Group concludes agreements regarding down payments and interim payments as well as collaterals. In order to protect itself against economic and political risks, the Group takes advantage of German government-backed trade export credit guarantees.

Performance-Related Risks

Caterpillar's delivery capacity and ability to deliver on time is the main risk to performance. Zeppelin and Caterpillar work together to continuously increase availability, for example, by making logistical improvements, maintaining inventories in Caterpillar's interim storage facilities, and preconfiguring machines. In order to ensure delivery, it also maintains inventories to balance out delivery bottlenecks and delays. Very high demand alongside the global shortage of materials and disruptions in supply chains have made it increasingly difficult to ensure availability since the end of the year.

The risks are minimized through international collaboration and management by the SBUs and ongoing inventory optimization.

Personnel-Related Risks

Besides the ongoing COVID-19 pandemic, other social and economic trends are changing the world of work. These include demographic change, globalization and digitalization, changing values and lifestyles, and the shortage of skilled workers. The ability to innovate and to ensure the long-term success of the company depend to a large extent on how these changes are dealt with in order to continue to develop the full performance potential.

At Zeppelin, we are responding with our own changes: The leadership principles take into account current social and economic trends and challenges in the world of work, preparing Zeppelin for a successful future. The leadership principles are based on the Zeppelin's shared values and the GPS corporate strategy and apply worldwide. The comprehensible and concisely formulated leadership principles are intended to connect, guide, and convey clear expectations to managers and employees. In order to entrench the leadership principles in the Zeppelin Group in the long term, they are carried into the company through new and existing programs and processes, accompanied by comprehensive communication.

The ongoing COVID-19 pandemic continues to have an impact on the way we work (together) at Zeppelin. In order to help employees face the challenges caused by the COVID-19 pandemic and beyond, the Z FIT health initiative offered various measures and actions. These included an "exercise challenge" with an extensive range of fitness training and exercises, as well as the "Healthy in Mobile Work" campaign week with a varied program on the topics of nutrition, exercise, and stress management. In addition, the first Z FIT workshop series specifically for managers was held: The "Healthy Leadership" program was designed to raise awareness among managers of psychological, social and physical aspects and to take an active and pioneering role in health projects.

Helping employees get the right work-life balance is an important goal for Zeppelin. Active support benefits both employees and Zeppelin. Balanced employees are more productive and also make a significant contribution to the company's success. In 2021, Zeppelin was successfully re-certified for its family and life-phase-conscious HR policy as part of the "audit berufundfamilie" thanks to numerous initiatives and measures, such as mobile working, the provision of services for families by its partner famPLUS, and the measures of the company health management program Z FIT.

The Zeppelin Group is also one of the best employers in Germany in 2021, awarded "Germany's Best Employer 2021" by Stern, "Germany's Most Desired Employer" by the F.A.Z. Institute and "Fair Company" by Handelsblatt. The latter certifies that the company meets in particular the expectations and values of career entrants and young professionals of a fair, attractive employer. The internal recommendation program Z MATCH, which helps with the recruitment of new employees, is now replicated via the new HR software Workday, which further simplifies the process for employees, Human Resources, and applicants. In addition, Workday now provides a global internal jobs market. This helps Zeppelin to retain valuable knowledge within the company and offers employees development opportunities throughout the Group. For new employees, the virtual onboarding event Z WELCOME was held three times in 2021, including once in English for new international colleagues.

Demographic change, and the competitive situation with other companies require additional measures to recruit and retain employees to counteract the shortage of skilled workers and secure the company's success in the long term. In addition, the demands on a modern company with regard to digitalization and new working models are rising. One indicator of employee satisfaction is the rate of voluntary resignations. In fiscal year 2021, the voluntary resignation rate was 5.8%, which is higher than in the previous year (4.2%). While the labor market was quiet in early 2020 due to the coronavirus, it picked up again in 2021 and is increasingly developing into a market that favors employees. The long average length of service of 9.4 years underlines the unchanged high level of employee loyalty toward Zeppelin despite the higher rate of voluntary resignations.

Further development opportunities also play an important role in employee recruitment and retention: In order to identify and promote talent and high potential employees within the company's own ranks, the existing potential analysis procedure Z COMPASS was expanded to incorporate the new leadership principles and enable a more targeted focus on management and expert career paths. The two different, target-group-specific procedures are aimed at top talents with potential for middle management (Z COMPASS Leadership) and employees with potential for first (operational) management duties or a specialist career (Z COMPASS Orientation). The realigned procedures were carried out in 2021 with 36 employees, partly in person and partly digitally.

[33] Exclusively bonded loans

[34] (Equity + non-current outside capital) / non-current assets

The leadership development programs were also refined: In response to the challenges of the COVID-19 pandemic, the various programs were converted into a hybrid format with digital and face-to-face modules, which will remain in place beyond the pandemic. The programs were also supplemented with additional modules on the topics of sustainability and diversity and given even greater international relevance. The modules of the various leadership development programs were held in face-to-face or virtually, depending on the infection situation at the time.

The rapidly changing world of work requires new ways of working. In addition to digitalization, which requires digital skills and digitalized HR services, increasing internationalization demands global processes and systems that connect business units. The software Workday has been available throughout the Group since November 2021. The introduction of Workday has allowed a large number of HR processes to be digitalized and automated. Workday offers employees various "self-services", such as the ability to maintain their own personal data. For managers, Workday provides important reporting functionalities and the possibility to independently initiate processes for their employees. The digitalization of HR processes moves Zeppelin closer towards the modern world of work, increasing efficiency and operational excellence and improving day-to-day collaboration between HR, managers, and employees.

To further build digital competencies and support employees in overcoming the challenges of the digital world of work, Zeppelin offers relevant training courses, including "Dealing with Digital", which provides tips and tricks to succeed in digital settings, as well as various courses based on collaboration and communication on the M365 platform and with Microsoft Teams. Hybrid collaboration is here to stay even after the COVID-19 pandemic. In 2021, Zeppelin was part of the Fraunhofer Institute's joint project "Connected Work", making a significant contribution to developing action models for a new, hybrid working environment.

Financial Risks

The Group's financial ability to act at any time is primarily ensured by the syndicated credit facility that was set up in 2011 and then extended again and increased in 2019. This credit facility has a term until 2024 and a prolongation option of one year on two occasions. In addition, in order to diversify its outside capital structure, the Group issues bonded loans, maintains bilateral credit lines with third-party banks, and makes use of sales financing via several specialized institutions. Extensive credit facilities are also available for SLB/SLP transactions, especially for financing the rental fleet.

In accordance with the Group's financial strategy of hedging around two thirds of its average financial liabilities against interest rate risks, the Group makes use of interest rate swaps. These hedging transactions secure Zeppelin GmbH against an increase in interest expenses in the event of drawdowns under the syndicated credit facility as well as for bonded loans. Hedging transactions have been concluded that expire in 2022, 2023, 2024, and 2025. In addition, bonded loans with fixed interest rates and maturities to 2031 were issued. These transactions provide the Group with long-term protection against the risk that rates will rise. The Group's business activities in emerging markets and developing countries expose it to currency risks. To limit these risks, cash flows in other currencies from individual transactions or projects are hedged with currency forwards and futures. In addition, the Group limits currency risks by financing its subsidiaries in emerging economies and developing countries in local currencies and by employing sophisticated asset management techniques. To monitor currency risks, the Group operates a value-at-risk limit system that is integrated in the Group-wide treasury management system and continuously monitored with action areas being highlighted. Despite sometimes volatile currency markets, consistent risk management led to a low overall foreign currency loss in 2021. Additional information regarding interest rate changes and currency risks can be found in the Notes to the Consolidated Financial Statements.

To protect itself against the financial consequences of large liability risks and substantial damages when it bears limited inherent risks, the Group takes out insurance policies. Special attention is paid to claims management and the related prevention of claims through precautionary measures. Coverage is continually monitored and adjusted as required within the scope of an international insurance management system. In addition, insurance coverage is centrally coordinated and managed for the entire Group. The real estate investments in St. Petersburg were insured against political risks by obtaining German government-backed guarantees for direct investments in other countries.

Even taking into account the other risks described below, particularly in relation to Russia, Ukraine and Belarus, the risk situation for Zeppelin GmbH and the Zeppelin Group as a whole does not pose a threat to the company's continued existence.

Other Risks

Risks Related to the COVID-19 Pandemic

In fiscal year 2021, the markets relevant to Zeppelin recovered for the most part and in some cases significantly from the effects of the COVID-19 pandemic and posted growth rates consistent with this. Due to the good economic performance and the established IT infrastructure, the Operation, Finance and IT crisis teams formed in the previous year were disbanded in 2021. This was also done in view of a comparative stabilization in the pandemic situation, the progress made in vaccinations in many countries, and the ability to deal with the pandemic and its consequences becoming increasingly routine. But the HR crisis team was kept in place in order to respond promptly and appropriately to the constantly changing regulatory framework and to safeguard the health, hygiene, and safety measures for employees. The organization of work structures was improved accordingly in fiscal year 2021. There was also continuous communication within the framework of virtual visits by Group management to the various countries and regions.

While demand recovered significantly in fiscal year 2021, increasing restrictions on the availability of machines, engines, components, spare parts, and primary products were noted over the course of the year. In addition, much longer delivery times and soaring prices on the procurement side also became evident. Added to these risk factors, the Omicron variant of the COVID-19 pandemic poses a further, potentially significant risk. Work absences, increasing numbers of days lost to illness, as well as additional supply chain disruptions up to renewed lockdown measures cannot be ruled out. The general increase in credit risk has not yet led to notably higher charges, but these cannot be ruled out for the future.

Russia, Ukraine and Belarus Risks

The geopolitical risk situation has intensified massively compared with the previous year due to Russia's invasion of Ukraine. The fact is, Russia and Ukraine are now at war. The situation in Kazakhstan and Belarus is also unstable and contributing to the new risk profile in the region. Zeppelin has been active in Russia, Belarus and Ukraine for decades. In fiscal year 2021, these countries accounted for around 17% of Group sales, about 30% of earnings before taxes and approximately 20% of employees. The military escalation between Russia and Ukraine and the US and EU sanctions already known or expected against Russia will have a massive impact on Zeppelin's business in both countries or, in the worst case, lead to the abandonment of business segments. A negative impact on Zeppelin's business in general from counter-sanctions by Russia cannot be ruled out either. Zeppelin's net asset positions in these countries, including Belarus, are in the low three-digit million range and must be regarded as of risk. However, even a total loss would not endanger the continued existence of the company. Measures to minimize risk were taken at an early stage, but with the clear stipulation that the operating business should not be significantly affected. Measures were tightened up noticeably following the conflict escalation, although the scope for action was significantly reduced.

Cyber Risks

The general cyber security situation was marked by a significant increase in professionalism in computer crime and an expansion of cyber-criminal extortion methods using ransomware.

Due to increasing digitalization in all business areas, it is an essential requirement to safeguard the availability, integrity, and confidentiality of data. Likewise, the resilience of the systems used, and products provided against current threats is also essential.

Zeppelin strives to achieve and maintain these requirements through appropriate technical and organizational measures and strategies, which include the establishment of an IT security management organization and the development and maintenance of a Group-wide information security management system. Guidelines and procedures based on international standards ensure that information security in the Group is permanently defined, managed, monitored, maintained, and continuously improved.

From a risk management perspective, information security risks are recorded, and preventive technical and organizational measures to minimize risks are defined, regularly reviewed, and adapted to the current threat situation.

In 2021, for example, a modern endpoint security solution was introduced throughout the Group to protect and defend against cyber threats on end devices. Using additional advanced security monitoring and security analytics, both internal resources and a managed security provider ensure that anomalies are detected at all times and attack attempts are averted.

As one of the most important vectors of attack, the human factor continues to play an important role. Therefore, one essential measure to reduce the risk of successful attacks is employee training and taking into account new models of flexible working environments. In particular, these trainings cover the detection of social engineering methods of attack.

Holistic information security management is the basis for adequate protection against current threats in the cyber environment. Despite continuous monitoring and preventive security measures, risks cannot be completely eliminated in this environment.

Climate Risks

Various climate risks have the potential to affect Zeppelin's business activities.

Transitory climate risks can be associated with the transition to an environmentally friendly, carbon-free economy. Zeppelin has identified regulatory changes, for example due to new or stricter laws and requirements, as well as higher operating and investment costs, for example due to necessary technical retrofitting of plant and equipment or the energy-efficient refurbishment of existing properties, as risks and areas for action. Furthermore, it is expected that current sales markets will change because of the transformation of the economy, and that the demand for products that use fossil energy sources will decrease in the long term, and the need for environmentally friendly, low-emission products and services will rise significantly. As a sustainable company, Zeppelin is responding at an early stage to the changes brought about by the transformation to a more environmentally friendly economy and expects this to create opportunities such as the development of new sales markets, an improvement in competitiveness through changes to the product and service portfolio, and increased resilience.

Physical climate risks can arise from the direct consequences of climate change, for example from an increase in extreme weather events, floods, forest fires, and periods of drought. Depending on the respective macro and micro situation, these environmental events can affect each of Zeppelin's locations with varying severity, probability, and extent of damage. Long-term changes, such as the increase in average temperatures, as well as indirect risks, such as restricted functionality of international supply chains due to local environmental damage, are also considered.

At the same time, physical climate risks offer opportunities for Zeppelin as these risks must be countered by appropriate measures such as the expansion of flood protection systems, irrigation and drainage systems, and the energy-efficient refurbishment of buildings.

Caterpillar, as Zeppelin's most important business partner and supplier, is also committed to sustainability and thus contributes to a lower carbon future. Caterpillar demonstrates this in many ways, e.g., through significant progress in reducing greenhouse gas (GHG) emissions from its own operations, and its ongoing investments in new products, technologies, and services to help customers meet their climate-related goals, while customers themselves implement projects for a better and more sustainable world. Innovations include battery-powered, zero-emission shunting locomotives and an underground loader, as well as reciprocating engines and gas turbines that burn hydrogen mixtures, landfill gas, and other biogases. Caterpillar is also developing a variety of alternative energy solutions to support a lower-carbon future, including battery-powered construction equipment.

Zeppelin is counteracting potential climate risks at an early stage through sustainable corporate governance and a voluntary commitment to achieve self-imposed sustainability targets, such as the goal of being a carbon neutral company in day-to-day operations by 2030. In the coming years, further climate risks and possible fields of action will be identified and prioritized, and measures to reduce risks and identify opportunities will be defined as required.

Risk Management System

General Aspects

As a global company, the Group is exposed to several risks. The Group counters these risks and meets the applicable operational, market-related, and legal requirements with a comprehensive risk management system. Risk management is part of the Group's business and decision-making processes and aims to identify, quantify, and report risks at an early stage. The focus here is to counter the risks that have been identified and to avoid risks that jeopardize the survival of the Group.

A dedicated planning and reporting system is a key aspect of risk management. The goal here is to ensure comprehensive recording of risks. All managers are involved in the identification, analysis, and evaluation of risks. Countermeasures to avoid or reduce risks are initiated accordingly.

The quarterly risk reporting system comprises the assessment of the identified risks according to their magnitude and probability of occurrence based on twelve risk categories and documents the countermeasures taken and their effectiveness over time.

In addition, the ad-hoc risk reporting process ensures that adequate measures are initiated in a timely manner if material risks occur. The Group's established Risk Panel is responsible for monitoring all risks and tracking the measures that have been initiated.

At Zeppelin, country-specific risks are evaluated based on established country risk reports. The management team and risk managers have access to a report with information about economic, political, and business area-specific risks for every country in which Zeppelin is active. This information also serves as the basis for controlling and the initiation of adequate measures to avoid risks.

In 2021, the Group auditing department conducted several standard audits. These were mainly conducted at the operational Group companies ABS Hydraulik GmbH, Zeppelin Polska Sp.zo.o., Zeppelin Power Systems GmbH, Zeppelin Rental GmbH (product division), Zeppelin Systems GmbH, and Zeppelin GmbH. Furthermore, a total of eight follow-up audits were conducted at the Group companies Zeppelin Baumaschinen GmbH (two follow-up audits), Zeppelin International AG, Zeppelin Power Systems GmbH, Zeppelin Rental GmbH (two follow-up audits), and Zeppelin Systems GmbH (two follow-up audits). There were also two special audits in the area of Fraud and Compliance.

Furthermore, a "cultural dialog" took place at Zeppelin Systems GmbH under the direction of the Group auditing department. This interdisciplinary project involves an examination of the business unit's non-financial areas – strategy, risk management, organization, and culture.

Assessment of Risk Categories

The above-mentioned risk types are contained in the following four risk categories:

- Asset risks [inventories/stocks, receivables, risks in the rental fleet, risks from agreements with financing companies (Rental Purchase Options/RPOs, reported in the contract risk category until 2017)],
- Currency risks (transaction/translation currency risks),
- Contract risks (contract risks, warranty risks),
- Financial risks (order backlog risks, sales risks, fiscal risks, market-related earning risks, other risks).

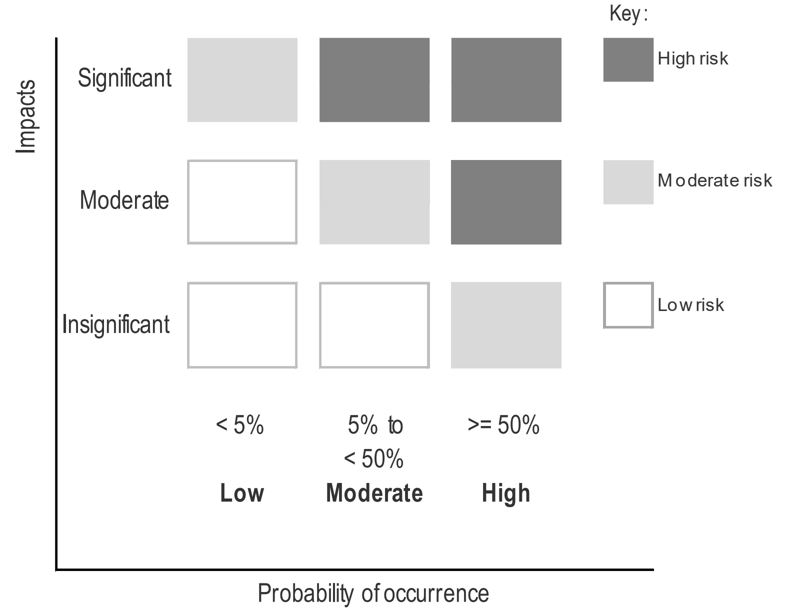
An evaluation matrix is used to assess these risks in terms of their probability of occurrence and their potential impacts on financial performance. The definitions used are explained below.

Definitions

Degree of impact	Definition of impact
Insignificant	Only insignificant, limited negative impacts on the financial performance (net losses < EUR 10 million[35])
Moderate	Some negative impacts on the financial performance (net losses >= EUR 10 million and < EUR 20 million[35])
Significant	Considerable negative impacts on the financial performance (net losses >= EUR 20 million[35])

Probability of occurrence	Description
< 5%	Low
5% to < 50%	Moderate
>= 50%	High

Evaluation matrix



Classification of Risk Categories

Risk category	Risk of occurrence	Impact on profit situation[35]	Risk assessment
Asset risks	Moderate	Significant	High
Currency risks	Low	Insignificant	Low/moderate
Contract risks	Low	Moderate	Low
Financial risks	Moderate	Insignificant	Low

The classification of the risk categories changed compared with the previous year, in particular due to the tense geopolitical situation in Russia, Ukraine and Belarus.

[35] Per risk category

OVERALL ASSESSMENT OF THE RISK SITUATION

The implemented risk management system is highly regarded within the Group and is an integral component of the business processes. It ensures that control mechanisms and measures to avoid and reduce risk are effective.

The Group's controlling department and risk panel continuously monitor the risk reporting system and take steps to keep improving the quality of risk management. The risk early warning system is checked and assessed by the auditor each year to ensure that it is being properly and effectively practiced.

No risks that could endanger the going concern of Zeppelin GmbH or its subsidiaries existed during the reporting year, nor are any such risks presently discernible for the future. For risks related to the worldwide spread of the COVID-19 virus, the Russia, Ukraine, and Belarus risks, and the cyber and climate risks, please refer to the comments under the respective separate sections of this report.

2 OPPORTUNITIES

Actively searching for and taking advantage of opportunities while simultaneously weighing the associated risks is a key task of entrepreneurial activity and thus also of the management of Zeppelin GmbH and all its subsidiaries. The goal is to strengthen and further expand Zeppelin's position as a leading and successful provider of forward-looking solutions in the areas of construction machines and mining equipment, rentals, construction logistics, drives and energy, plant engineering, and new digital business models across Zeppelin's competencies.

In this respect, Zeppelin considers itself well positioned and launched and implemented a large number of strategic initiatives in its various business segments in 2021. Targeted investments were made in the local organization and structures for the Nordics activities acquired at the end of 2019, with a focus on Sweden and Denmark. In these new regions, the Zeppelin Group has already achieved initial successes in its growth strategy and continues to see considerable potential in the distribution and service of construction machines and special equipment for surface and underground mining.

This growth strategy is also followed by the expansion of rental activities for equipment and related services. The aim here is to transfer the successful German rental model to the Nordics, as well as to other existing foreign markets. In addition to equipment rental, great potential is seen in the areas of construction logistics, electrical & energy, and modular room systems. With the realignment in site and traffic guidance, Zeppelin also sees itself as well positioned, especially after the acquisition and integration of Luther HL GmbH & Co. KG and METON GmbH and associated foreign companies. LED signage systems, and traffic telematics solutions offer attractive market opportunities in addition to traditional safety barrier systems.

The future prospects for the construction industry in Germany and Europe are generally positive, which, in addition to rentals, is likely to be reflected in particular in business with construction machines and mining equipment, and machines for the extraction industry. In particular, the high investment demand in the infrastructure sector supports this positive outlook. Here, Zeppelin is excellently positioned to participate to a considerable degree with its strong brand and market position, its highly experienced team and logistics, and with Caterpillar as manufacturer partner. The prospects for the territories in Eurasia are also such that a continuation of the growth of the past years is expected. Continued high demand for raw materials and agricultural products is expected, and there is a pressing need to catch up on infrastructure investments in these areas. Zeppelin's positioning as a reliable partner to its customers should pay off positively in this respect. Of course, the considerable geopolitical risks in these areas could dampen the expected growth quite significantly.

Zeppelin is facing a major upheaval with the transformation and shift away from the internal combustion engine. Even if it is not yet clear here which technologies will prevail in which applications, Zeppelin Power Systems, for example, is already involved in projects with fuel cells. The company's own competences in system integration will be expanded in a targeted manner in order to be able to offer cross-technology solutions.

In plant engineering, there are particular opportunities in the three growth markets of battery mass, recycling, and meat substitutes. Zeppelin has enhanced its position in this area through the acquisition of significant parts of MTI Mischtechnik International GmbH and, with its international network, offers a technologically leading range of services with high market recognition and potential for greater demand in the future. Accordingly, capacities are being expanded and the organization strengthened. This also applies in particular to automation technology.

Besides automation technology, digitalization also offers a lot of potential across all business areas, both in increasing efficiency through process automation, and in offering existing and new customers innovative and complementary solutions. Proof of Zeppelin's success with new business models is the spin-off of klickrent and klickcheck into the independent company Accelerent GmbH. The aim here is for one of the largest B2B rental platforms for construction technology in Germany to continue to grow. This is just one example of how digitalization and innovation are successfully being driven forward by Zeppelin. There is also a wide range of services, measures, and activities that are enabling Zeppelin's customers to carry out all essential and relevant transactions with Zeppelin in digital format.

3 COMPLIANCE

Compliance at Zeppelin is based on the conviction that social responsibility, observance of the law, and ethical conduct are essential for long-term business success. Complying with legal requirements, official regulations, and internal corporate guidelines is a key part of Zeppelin's management and corporate culture. Membership of the UN Global Compact underscores the Zeppelin Group's clear commitment to human rights and sustainable corporate management.

The Zeppelin Group's Code of Conduct forms the basis of the compliance program against the backdrop of a compliance culture that has been evolving for years. It is supported by compliance risk management, a policy organization, and regular communication. The expansion within the business units has further strengthened compliance management.

Compliance trainings are supplemented by a multilingual compliance e-learning program. The "Compliance Basics" e-learning module is a mandatory program for all employees and teaches about the basics of compliance and corruption prevention and provides information on antitrust law.

Employees can contact the internal compliance organization via the Zeppelin Intranet, a special email address, and of course in person. Alternatively, external lawyers also act as contacts in the sales territories. In addition, an online whistleblower system, the Zeppelin Trust Line, has been set up for employees and third parties to report suspected compliance cases, including the option of reporting anonymously.

The compliance officers and employees responsible for implementing the compliance program receive special trainings on an ongoing basis to train and qualify them for their roles; the compliance officers responsible for the Groups' strategic business units have been certified for this position.

D FORECAST

Even though the Omicron wave is not currently having an additional massive negative impact, the global economy continues to be affected by the consequences of the COVID-19 pandemic, which include, in particular, fragmented supply chains and limited availability of raw materials and goods. Moreover, the intensified trade and geopolitical conflicts will in all likelihood have a severe negative impact on Zeppelin's future economic growth. The forecasts therefore contain numerous uncertainty factors and are heavily affected by the general underlying conditions.

The International Monetary Fund forecasts GDP growth of 4.9% for the global economy in 2022. The Eurozone is slightly lower with forecast growth of 4.3%, with Germany slightly above the European average with a growth forecast of 4.6%. The forecast for Austria and the Czech Republic is similar, at 4.5% each. The forecast for the Slovak Republic is above average with an increase in growth of 5.2%. The expected increase for Poland is also positive at 5.1%. On the other hand, the growth forecasts for the Russian economy (2.9%) and for Ukraine (3.6%) are comparatively low. The forecasts for Sweden (3.4%) and Denmark (3.0%) are at a similar level. Brazil is clearly lagging behind in this comparison, with growth of 1.5% expected. In contrast, much higher figures are forecast for the USA (5.2%) and for China (5.6%). India is among the top performers in the international comparison with a forecast of 8.5%.[36]

With regard to the core market of the **Construction Equipment CE SBU**, the HDB and the ZDB forecast that construction industry sales will increase in 2022 by 5.5% in nominal terms or by 1.5% in price-adjusted terms. Residential construction is expected to achieve nominal sales growth of 7.0% and remains the most important construction sector. Similarly, commercial investors are expected to achieve nominal growth of 6%. With regard to sales growth in public construction, these associations expect only a weak nominal increase of 2% due to the municipalities limited scope for action.[37]

For the markets of the **Construction Equipment Nordics SBU**, residential construction in Denmark and Sweden is expected to grow by +3.0% and to decline by -2.1%, respectively. Non-residential construction is posting analogous trends, with growth of +1.7% expected in Denmark and a decline of -6.0% in Sweden. In terms of construction volume, transport infrastructure is expected to grow by +2.7% in Denmark and by +1.8% in Sweden.[38]

For 2022, **Construction Equipment Eurasia SBU** expects growth of 12% in Russia and 7% in Ukraine in the construction machines and mining equipment markets. However, in view of the military escalation between Russia and Ukraine and its consequences, we expect a significant decline in business volume and cannot rule out the complete discontinuation of business segments and the loss of assets in Russia and Ukraine.

According to the European Rental Association, the German rental market, which is particularly important for the **Rental SBU**, is expected to grow by 7.0% in 2021. Rental market growth in Austria is expected at 5.4% and in the Czech Republic at 5.7%. Sweden is expected to grow by 2.9% and Denmark by 4.2%.

The VDMA expects nominal revenue growth of 5% year on year for the engines and systems sector in 2022. Major challenges in terms of the availability of materials and delivery times for parts and engines are having a limiting effect on the development of the **Power Systems SBU**. Alongside the distribution and service activities for Caterpillar and MaK engines, the focus in 2022 will be on the expansion of digital business models and on alternative

[36] IMF World Economic Outlook Database, October 2021.
[37] Zentralverband des Deutschen Baugewerbes e.V.: "Konjunkturprognose 2022" [Economic Forecast 2022].

[38] EUROCONSTRUCT, 92nd Euroconstruct Summary Report Winter 2021.

drive systems and fuels. In future, Zeppelin Power Systems will offer gas engines for combined heat and power generation in decentralized CHP plants that run on up to 100% hydrogen. In addition, the SBU is seeking to expand its core business with partnerships and projects in the area of fuel cells. The global expansion of segment expertise, such as in container solutions for power supply or combined heat and power plants, will continue to be a focus of our strategy.

Despite full order books, the VDMA, which is important for the **Plant Engineering SBU**, is reporting a variety of material bottlenecks. This means that, as expected, pre-crisis levels will not be reached until 2022. Compared with 2021, the association expects an increase of annual sales of 10% for 2022. The production forecast has been increased from 5% to 7% compared with the previous year.

Due to the military escalation between Russia and Ukraine as well as further uncertainties, the Group expects a sharp decline in sales, earnings before taxes, and return on capital employed (ROCE) for the 2022 fiscal year. Zeppelin GmbH also expects a sharp decline in the net profit after tax according to IFRS for 2022, due in particular to lower income from participations and profit transfers, potential loss allowances of participations, and obligations to assume liabilities of Group companies to banks. There are no major differences with respect to the net profit after tax in the individual financial statements for Zeppelin GmbH according to IFRS and the German Commercial Code.

E Proposed Allocation of Profits

The Management Board proposes to distribute a dividend of 18%, i.e. EUR 20,640 thousand, for fiscal year 2021 from the consolidated net profit for the year attributable to the shareholders of Zeppelin GmbH (EUR 114,667 thousand) and to carry forward the remaining net profit of EUR 541,680 thousand to new account.

Friedrichshafen, March 1, 2022

The Management Board of Zeppelin GmbH

Peter Gerstmann　Michael Heidemann　Christian Dummler　Alexandra Mebus

CONSOLIDATED STATEMENT OF PROFIT OR LOSS

OF ZEPPELIN GMBH FOR THE PERIOD DATING JANUARY 1 TO DECEMBER 31, 2021

in kEUR	No.	2021	2020
Sales	1	3,695,587	3,271,749
Cost of sales	2	-3,162,816	-2,786,210
Gross profit on sales		**532,772**	**485,539**
Research and development costs		-1,738	-3,292
Selling expenses		-223,995	-200,428
General administrative expenses		-159,256	-148,256
Other income	3	52,340	55,190
Other expenses	4	-30,749	-41,754
Impairment of financial instruments and contract assets (net)		-1,896	-6,377
Share in the result of companies accounted for using the equity method		1,808	1,601
Profit before net financial result		**169,285**	**142,224**
Interest result	6	-12,965	-15,231
thereof, interest expenses	6	-17,177	-19,523
thereof, interest income	6	4,212	4,292
Other financial result	6	3,184	-2,350
thereof, other financial expenses	6	-7,757	-11,451
thereof, other financial income	6	10,942	9,101
Net financial result		**-9,780**	**-17,581**
Net profit before tax		**159,505**	**124,643**
Income taxes	7	-41,506	-33,096
Net profit after tax		**117,999**	**91,546**
thereof, attributable to non-controlling interests		3,332	4,262
thereof, attributable to the shareholders of Zeppelin GmbH		114,667	87,284

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

OF ZEPPELIN GMBH FOR THE PERIOD DATING JANUARY 1 TO DECEMBER 31, 2021

in kEUR	2021	2020
Net profit after tax	**117,999**	**91,546**
Pension plan remeasurements	4,749	-11,646
Income taxes	-1,196	3,276
Items that will not be reclassified to profit or loss	**3,554**	**-8,370**
Exchange differences on the translation of foreign operations	15,077	-19,925
Hedging gains or losses including transfer to profit or loss	1,271	-696
Income taxes	-339	117
Items that may be reclassified to profit or loss	**16,009**	**-20,504**
Other comprehensive income after tax	**19,562**	**-28,874**
Total comprehensive income	**137,561**	**62,672**
thereof, attributable to non-controlling interests	4,607	3,842
thereof, attributable to the shareholders of Zeppelin GmbH	132,955	58,830

CONSOLIDATED STATEMENT OF FINANCIAL POSITION

OF ZEPPELIN GMBH AS OF DECEMBER 31, 2021

in kEUR	No.	12/31/2021	12/31/2020
Assets			
Current assets			
Cash and cash equivalents	9	211,423	157,332
Financial assets	10	19,662	25,685
Trade receivables	10	431,653	380,374
Contract assets	11	40,058	39,010
Other assets	12	53,467	47,363
Income tax receivables		3,376	1,909
Inventories	13	594,913	533,068
Assets held for sale	14	3,500	0
		1,358,052	**1,184,741**
Non-current assets			
Financial assets	15	26,374	30,075
Trade receivables	15	9,785	8,455
Contract assets	11	91	82
Other assets	12	53,667	52,782
Income tax receivables		323	455
Investments accounted for using the equity method	16	19,501	17,848
Intangible assets	17	104,551	110,782
Property, plant, and equipment	18	1,329,761	1,289,747
Deferred taxes	7	86,345	77,948
		1,630,396	**1,588,175**
		2,988,448	**2,772,916**

in kEUR	No.	12/31/2021	12/31/2020
Equity and liabilities			
Current liabilities			
Financial liabilities	19	114,125	105,320
Trade payables	19	150,309	130,941
Other financial liabilities	19	121,068	119,370
Contract liabilities	11	258,989	154,883
Other liabilities	20	128,602	124,044
Income tax liabilities		6,883	12,495
Employee benefits	22	109,723	104,356
Other provisions	23	47,225	35,869
		936,925	**787,278**
Non-current liabilities			
Financial liabilities	21	530,692	609,706
Other financial liabilities	21	168,451	164,637
Contract liabilities	11	24,701	16,514
Other liabilities	20	78,125	74,907
Income tax liabilities		9,632	9,026
Employee benefits	22	168,479	177,479
Other provisions	23	5,620	7,775
Deferred taxes	7	56,478	35,638
		1,042,178	**1,095,682**
Equity			
Share capital	24	100,000	100,000
Capital reserves	24	60,000	60,000
Retained earnings	24	858,445	759,549
Accumulated other comprehensive income	24	-22,983	-41,270
Equity attributable to the shareholders of Zeppelin GmbH		**995,462**	**878,279**
Non-controlling interests	24	13,883	11,678
		1,009,345	**889,957**
		2,988,448	**2,772,916**

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

OF ZEPPELIN GMBH FOR THE PERIOD DATING JANUARY 1 TO DECEMBER 31, 2021

in kEUR	Share capital	Capital reserves	Retained earnings	Accumulated other comprehensive income: Pension plan remeasure-ments	Accumulated other comprehensive income: Exchange differences on the translation of foreign operations	Accumulated other comprehensive income: Hedging gains or losses	Equity attribut-able to the share-holders of Zeppelin GmbH	Non-controlling interests	Equity
01/01/2020	**100,000**	**60,000**	**688,340**	**-11,075**	**-979**	**-761**	**835,524**	**9,907**	**845,431**
Net profit after tax			87,284				**87,284**	4,262	**91,546**
Other comprehensive income				-8,370	-19,504	-580	**-28,454**	-420	**-28,874**
Total comprehensive income			**87,284**	**-8,370**	**-19,504**	**-580**	**58,830**	**3,842**	**62,672**
Dividends			-16,103				**-16,103**	-2,068	**-18,171**
Other changes			28				**28**	-3	**25**
12/31/2020	**100,000**	**60,000**	**759,549**	**-19,445**	**-20,484**	**-1,341**	**878,279**	**11,678**	**889,957**
Net profit after tax			114,667				**114,667**	3,332	**117,999**
Other comprehensive income				3,553	13,802	932	**18,287**	1,275	**19,562**
Total comprehensive income			**114,667**	**3,553**	**13,802**	**932**	**132,955**	**4,607**	**137,561**
Dividends			-15,711				**-15,711**	-2,110	**-17,821**
Changes in the consolidation group								-292	**-292**
Other changes			-60				**-60**		**-60**
12/31/2021	**100,000**	**60,000**	**858,445**	**-15,892**	**-6,682**	**-409**	**995,462**	**13,883**	**1,009,345**

CONSOLIDATED STATEMENT OF CASH FLOWS

OF ZEPPELIN GMBH FOR THE PERIOD DATING JANUARY 1 TO DECEMBER 31, 2021

in kEUR	2021	2020
Net profit after tax	**117,999**	**91,546**
Income taxes	41,506	33,096
Net profit before tax	**159,505**	**124,643**
Depreciation, amortization, impairments and reversals of impairment losses	271,626	253,934
thereof, intangible assets	17,464	16,413
thereof, property, plant, and equipment excluding rental fleet	79,850	68,648
thereof, rental fleet	174,311	167,534
thereof, financial assets	0	1,339
Share in the result of companies accounted for using the equity method	-1,808	-1,601
Change in post-employment benefit obligations	-6,437	-5,285
Change in long-term provisions	-425	-1,074
Unrealized foreign exchange rate gains/losses	-3,683	2,616
Interest income and expenses	12,965	15,231
Income from other participations	-3,257	-745
Other non-cash income/expenses	14,552	-25,267
Income from asset disposals	255	5,096
Change in inventories	-73,685	57,210
Change in assets held for rental	-141,145	-104,663
Change in RPO assets held for rental	-55,678	-56,717
Change in trade receivables	-52,090	45,085
Change in other receivables and assets	-10,925	-6,954
Change in trade payables	19,180	14,516
Change in other payables and other liabilities	149,975	-31,773
Income taxes received	264	3,631
Income taxes paid	-35,607	-28,289
Change from assets held for sale	-3,500	0
Cash flow from operating activities	**240,082**	**259,593**

in kEUR	2021	2020
Cash flow from operating activities	**240,082**	**259,593**
Payments for investments in		
Intangible assets	-10,415	-11,973
Property, plant, and equipment excluding rental fleet	-44,080	-33,522
Financial assets	-562	-1,156
Proceeds from the sales of		
Intangible assets	148	961
Property, plant, and equipment excluding rental fleet	1,518	-1,029
Financial assets	704	600
Payments for the acquisition of consolidated companies	-5,773	0
Interest received	1,811	1,738
Dividends received	3,257	745
Cash flow from investing activities	**-53,391**	**-43,636**
Proceeds from non-current financial liabilities	62,346	0
Repayment of non-current financial liabilities	-105,184	-18,910
Net proceeds and repayments of current financial liabilities	-6,054	-37,376
Proceeds from the conclusion of SLB transactions	10,259	60,549
Payments for SLB liabilities	-30,475	-63,314
Payments for lease liabilities	-39,364	-33,897
Interest paid	-11,568	-13,112
Dividends paid to shareholders of Zeppelin GmbH	-15,711	-16,103
Distributions made to non-controlling interests	-2,110	-2,068
Cash flow from financing activities	**-137,860**	**-124,230**
Changes in cash and cash equivalents	**48,831**	**91,727**
Cash and cash equivalents at the beginning of the period	**157,332**	**68,884**
Changes in cash and cash equivalents	48,831	91,727
Consolidation group-related changes in cash and cash equivalents	1,161	91
Foreign exchange rate differences in cash and cash equivalents	4,099	-3,371
Cash and cash equivalents at end of the period	**211,423**	**157,332**

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

OF ZEPPELIN GMBH FOR THE PERIOD DATING JANUARY 1 TO DECEMBER 31, 2021

A COMPANY

The Zeppelin Group (hereinafter "Zeppelin" or "Group") provides solutions for the following areas: construction and agricultural equipment, rental equipment, construction logistics, drives and energy, engineering, and plant engineering. The Group is legally domiciled in Friedrichshafen, with its headquarters located in Garching near Munich. The consolidated financial statements comprise Zeppelin GmbH and its subsidiaries. Zeppelin GmbH has its registered office in Friedrichshafen and is entered in the Commercial Register B of the District Court of Ulm under number HRB 630217.

Group-wide collaboration at Zeppelin revolves around a management holding company and six strategic business units (hereinafter "SBU"): Construction Equipment Central Europe (hereinafter "Construction Equipment CE"), Construction Equipment Eurasia, Construction Equipment Nordics, Rental, Power Systems and Plant Engineering. The structure supports the bundling of operations and the targeted orientation of the business models towards various markets and customers.

The "Zeppelin Digit" Strategic Management Center, which is responsible for cross-SBU matters in the area of IT, digitalization and innovation, supplements the strategic business units.

Zeppelin GmbH is a Kapitalgesellschaft (corporation) whose voting rights are held 96.25% by Luftschiffbau Zeppelin GmbH, Friedrichshafen, and 3.75% by the Zeppelin Foundation. The Zeppelin Foundation is administered by the City of Friedrichshafen. The Zeppelin Foundation holds 90.0% of the shares in Luftschiffbau Zeppelin GmbH; the remaining 10.0% are held by Zeppelin GmbH. Based on an agreement concluded between Zeppelin GmbH and Luftschiffbau Zeppelin GmbH on November 7, 2011, control is passed through to the Zeppelin Foundation, which therefore is the ultimate parent company of Zeppelin GmbH. The Zeppelin Foundation does not have legal personality and does not prepare consolidated financial statements. That is why Zeppelin GmbH is obliged to prepare consolidated financial statements in accordance with Section 290 (1) sentence 1 HGB (German Commercial Code).

B BASIS OF PREPARATION

As a non-publicly traded company, Zeppelin GmbH makes use of the option under Section 315e (3) HGB to prepare its consolidated financial statements in accordance with IFRS.

The consolidated financial statements have been prepared in accordance with the International Financial Reporting Standards (IFRS and IAS) and Interpretations (IFRIC and SIC) adopted into European law by the European Commission as of the reporting date. The International Accounting Standards are drawn up by the International Accounting Standards Board (IASB) while the interpretations are designed by the International Financial Reporting Standards Interpretations Committee (IFRSIC). These bodies are supported by a private foundation based in London (GB), the International Accounting Standards Foundation.

The financial year corresponds to the calendar year. All figures are presented in euros, the functional currency of the Group, and have been rounded up or down to the nearest thousand euros (kEUR). Rounding may result in rounding differences.

The consolidated financial statements are prepared in accordance with the historical cost convention with exceptions made e.g. for derivatives and participations, which are measured at fair value.

The consolidated financial statements have been authorized for submission to the shareholders and to the Supervisory Board of Zeppelin GmbH on March 1, 2022 by the Management Board. The shareholders may request changes or amendments to the consolidated financial statements in the course of approval.

ACCOUNTING STANDARDS APPLIED

Standards Applied for the First Time

The following standards, interpretations, or amendments to standards were mandatory for the first time in financial year 2021:

IFRS 9, IAS 39 and IFRS 7 – Phase 2 of IBOR[1] Reform

Changes in phase 2 of the IASB project on the reform of benchmark interest rates provide exemptions in connection with the presentation of changes to contractual cash flows and hedging relationships that have become necessary in connection with the IBOR reform, as well as related disclosures.

In general, the following notable changes to IFRS result:

- *Presentation of changes in cash flows from financial instruments by updating the effective interest rate and not by adjusting the carrying amount of the financial instruments concerned;*
- *Presentation of changes in future lease payments through remeasurement in accordance with IFRS 16.42;*
- *Changes to the designation and documentation of a hedging relationship required due to the IBOR reform do not lead to termination of the hedging relationship.*

[1] "Interest Rate Benchmark Reform"

With regard to IFRS 16, there have been no material effects for the Zeppelin Group to date, as Zeppelin largely has no leases with variable lease payments that are linked to a benchmark interest rate.

Furthermore, there could be a phase 2 change in cash flows from financial instruments, especially in loan agreements with credit institutions. This is the case, for example, if a contract is amended to replace the benchmark interest rate with an alternative one. Zeppelin is in ongoing discussions with the banks on this issue. To date, however, there has been no need to adjust any loan agreements.

IFRS 16 – COVID-19 related rent concessions

The amendment to IFRS 16 provides lessees with an optional exemption from assessing whether a COVID-19-related rent concession (e.g. deferral or waiver) is a modification. Under this exemption, a lessee may elect to waive the assessment of whether a rent concession directly related to the COVID-19 pandemic is a lease modification with respect to lease payments and instead account for it as if it were not a lease modification. The exemption could originally only be applied to rent concessions directly related to the COVID-19 pandemic that reduce lease payments due until June 30, 2021. Against the backdrop of the ongoing COVID-19 pandemic, the option to apply this exemption under IFRS 16 has been extended. Accordingly, the amendment to IFRS 16 applies to rental or lease payments that are or become due before June 30, 2022. As Zeppelin has not made use of this exemption, there are no effects on accounting.

Standards not yet Adopted

By the date of preparation of the consolidated financial statements, the IASB and IFRIC had published new and amended existing accounting standards, the first-time application of which is only mandatory or permitted after the reporting date. The regulations and expected effects of their application on the consolidated financial statements are presented below:

Standard/Interpretation/Framework		First application	Brief summary
IAS 37	"Provisions, contingent liabilities and contingent assets"	01/01/2022	IAS 37 defines what costs an entity should include when assessing whether a contract will be loss-making. The amendments clarify what exactly is meant by the settlement costs of a contract. These are all costs of fulfilling the contract that are directly attributable to the contract. The costs directly attributable to the contract are not only the incremental costs incurred by an entity as a result of the contract, such as direct labor and material costs, but also other costs directly attributable to the performance of the contract (for example, pro rata depreciation of an item of property, plant, or equipment used to perform the contract). No changes to Zeppelin's accounting are expected.
IAS 16	"Property, plant, and equipment"	01/01/2022	IAS 16 requires that the acquisition costs of an item of property, plant, and equipment includes all directly attributable costs incurred in bringing an asset to its location and a condition ready for use. This includes, for example, costs for trial runs. The question is whether any income in excess of the test costs from the sale of items produced during the period in which an item of property, plant, and equipment is brought to its location and working condition reduces the cost of the item of property, plant, and equipment, or should be recognized in profit or loss. The amendment to IAS 16 clarifies that in future no deduction of such income from the cost of the item of property, plant, and equipment will be permitted. No material impact on the Zeppelin Group is expected.

Standard/Interpretation/Framework		First application	Brief summary
IFRS 3	"Business combinations"	01/01/2022	The amendment to IFRS 3 updates a reference in IFRS 3 to the revised IFRS Conceptual Framework (2018). Furthermore, IFRS 3 is supplemented by the requirement that an acquirer must apply the rules of IAS 37 or IFRIC 21 instead of the conceptual framework when identifying acquired obligations that fall within the scope of IAS 37 or IFRIC 21. Exceptions to this are contingent liabilities, for which the exemption under IFRS 3.23 remains valid. Furthermore, IFRS 3 is supplemented by an explicit prohibition on the recognition of acquired contingent assets. No material impact on the Zeppelin Group is expected.
IFRS 1	"First-time Adoption of International Financial Reporting Standards" (AIP 2018–2020)	01/01/2022	The objective of the amendment in IFRS 1 is a further simplification in the transition to IFRS for subsidiaries that only convert their accounting to IFRS after the parent company. Previously, subsidiaries could recognize their assets and liabilities on the transition date at the carrying amounts from the parent's consolidated financial statements. However, this exemption did not apply to equity. With the annual improvements, IFRS 1 has been adapted to the effect that the exemption option also extends to a cumulative currency translation difference of the subsidiary contained in the consolidated equity of the parent company. This eliminates the need for the subsidiary to maintain a separate statement for the translation difference. No material impact on the Zeppelin Group is expected.
IFRS 9	"Financial Instruments" (AIP 2018–2020)	01/01/2022	When debt is rolled over or modified, IFRS 9 may require the previous financial liability to be derecognized and a new one recognized, depending on the materiality of the modification. To assess whether the contractual terms of a liability have changed materially, a comparative calculation is performed in the form of a 10% test. According to this, a liability must be derecognized if the present value of the future payments under the new/modified terms differs by at least 10% from the "old" present value. The amendment to IFRS 9 clarifies that the debtor only has to take into account the fees that flowed between it and the creditor in the comparative calculation. This includes, for example, a fee payable to the bank for carrying out the debt restructuring, but not the fee payable to the advisor for assisting in the negotiation with the bank. No material impact on the Zeppelin Group is expected.
IFRS 17	"Insurance contracts"	01/01/2023	IFRS 17 "Insurance contracts" will replace IFRS 4 "Insurance contracts" in the future. Rules on accounting for insurance contracts are not relevant to Zeppelin.

Standard/Interpretation/Framework		First application	Brief summary
IAS 1	"Presentation of financial statements"	01/01/2023	The amendment to IAS 1 clarifies that the classification of liabilities as current or non-current is based on the rights the entity has at the reporting date. According to the amendment, liabilities are classified as non-current if the entity has a substantial right at the end of the reporting period to defer settlement of the liability for at least twelve months after the reporting date. Whether or not the entity or the management intends to exercise its right is not to be taken into account. Zeppelin does not expect any reclassification arising from this.

CONSOLIDATION GROUP

Subsidiaries

The following subsidiaries are included in the consolidated financial statements:

Name	Registered office		Equity share in %	
	Country	Town/City	12/31/2021	12/31/2020
Zeppelin GmbH	Germany	Friedrichshafen	-	-
AT Baumaschinentechnik Beteiligungs GmbH	Germany	Munich	100.0	100.0
Accelerent GmbH (formerly: Zeppelin Lab GmbH)	Germany	Berlin	100.0	100.0
Energyst Rental Solutions GmbH & Co. KG (acquired as a share deal in 2021 and subsequently included in consolidation group for first time and merged into Zeppelin Rental GmbH)	Germany	Duisburg	-	-
IBH Ingenieurbüro Herzbruch GmbH	Germany	Schwelm	100.0	100.0
IBS Bauvermessungs GmbH (included in consolidation group for first time in 2021 and subsequently merged into SITECH Deutschland GmbH)	Germany	Baden-Baden	-	100.0
Klickparts GmbH	Germany	Hallbergmoos	100.0	100.0
Luther HL GmbH & Co. KG (merged into Meton GmbH in 2021)	Germany	Hoppstädten-Weiersbach	-	100.0
METON GmbH	Germany	Hoppstädten-Weiersbach	100.0	100.0
SITECH Deutschland GmbH	Germany	Oberhausen	100.0	100.0
Zeppelin Aviation & Industrial Service GmbH	Germany	Friedrichshafen	100.0	100.0
Zeppelin Baumaschinen GmbH	Germany	Munich	100.0	100.0
Zeppelin Lab GmbH (formerly: Zeppelin Digital GmbH; established in 2021 and subsequently included in consolidation group for first time)	Germany	Berlin	100.0	-
Zeppelin Power Systems GmbH	Germany	Hamburg (formerly: Friedrichshafen)	100.0	100.0
Zeppelin Power Systems GmbH & Co. KG (merged into Zeppelin Power Systems GmbH in 2021)	Germany	Hamburg	-	100.0
Zeppelin Power Systems Verwaltungs GmbH	Germany	Hamburg	100.0	100.0
Zeppelin Rental GmbH	Germany	Garching near Munich	100.0	100.0
Zeppelin Struktur GmbH (merged into Zeppelin GmbH in 2021)	Germany	Garching near Munich	-	100.0
Zeppelin Systems GmbH	Germany	Friedrichshafen	100.0	100.0
Zeppelin Armenien OOO	Armenia	Abovyan	100.0	100.0
Zeppelin Systems Benelux N.V.	Belgium	Genk	100.0	100.0

Name	Registered office		Equity share in %	
	Country	Town/City	12/31/2021	12/31/2020
Zeppelin Systems Latin America Equipamentos Industriais Ltda.	Brazil	São Paulo	100.0	100.0
Zeppelin Systems China (Beijing) Co. Ltd.	China	Beijing	100.0	100.0
Zeppelin Systems China (Shanghai) Co. Ltd.	China	Shanghai	60.0	60.0
SITECH Danmark A/S	Denmark	Horsens	100.0	100.0
Zeppelin Danmark A/S	Denmark	Brondby	100.0	100.0
Zeppelin Systems UK Limited	England	Nottingham	100.0	100.0
Baltic Marine Contractors OÜ (included in consolidation group for first time in 2021)	Estonia	Tallinn	100.0	100.0
Zeppelin Systems France S.A.R.L.	France	Vénissieux Cedex	100.0	100.0
Smart Controls India Ltd.	India	Madhya, Pradesh	60.0	60.0
Zeppelin Systems India Pvt. Ltd.	India	Vadodara	100.0	100.0
Nuova Ciba S.p.A.	Italy	Reggio Emilia	100.0	100.0
Zeppelin Systems Italy S.r.l. (non-controlling interest acquired in 2021)	Italy	Milan	100.0	90.0
Zeppelin Österreich GmbH	Austria	Fischamend, near Vienna	100.0	100.0
Zeppelin Rental Österreich GmbH & Co. KG	Austria	Fischamend, near Vienna	100.0	100.0
Zeppelin Rental Österreich Verwaltungs GmbH	Austria	Fischamend, near Vienna	100.0	100.0
Zeppelin Polska Sp. z.o.o.	Poland	Warsaw	100.0	100.0
Zeppelin Immobilien Russland OOO	Russia	Moscow	100.0	100.0
Zeppelin Power Systems Russland OOO	Russia	Moscow	100.0	100.0
Zeppelin Russland OOO	Russia	Moscow	100.0	100.0
Zeppelin Systems Gulf Co. Ltd.	Saudi Arabia	Al Jubail	100.0	100.0
Energyst Rental Solutions AB (acquired as a share deal in 2021 and subsequently merged into Zeppelin Sverige AB)	Sweden	Gothenburg	-	-
SITECH Sverige AB	Sweden	Örebo	100.0	100.0
Zeppelin Sverige AB	Sweden	Mölndal	100.0	100.0
Zeppelin International AG	Switzerland	Steinhausen	100.0	100.0
Zeppelin Systems Singapore Pte. Ltd.	Singapore	Singapore	100.0	100.0
DIMA service for plant engineering s.r.o.	Slovak Repub-lic	Bratislava	100.0	100.0
Zeppelin SK s.r.o.	Slovak Repub-lic	Banska Bystrica	100.0	100.0
Zeppelin Systems Korea Corporation	South Korea	Gyeonggi Province	100.0	100.0
Zeppelin Tadschikistan OOO	Tajikistan	Dushanbe	100.0	100.0
Zeppelin CZ s.r.o.	Czech Republic	Modletice near Prague	100.0	100.0
Zeppelin Turkmenistan JV	Turkmenistan	Ashgabat	100.0	100.0
PJSC "Ukrcukorteploi-zolyaciya" (UCTI) (included in consolidation group for first time in 2021)	Ukraine	Vyshneve	100.0	100.0
Zeppelin Marine Service Ukraine LLC	Ukraine	Kiev	100.0	100.0
Zeppelin Ukraine TOV	Ukraine	Kiev	100.0	100.0
Zeppelin Central Asia Machinery OOO	Uzbekistan	Tashkent	100.0	100.0
Zeppelin Systems USA Inc.	United States of America	Odessa/Florida	100.0	100.0
Zeppelin Weißrussland OOO	Belarus	Minsk	100.0	100.0

The following subsidiaries are not included in the consolidated financial statements because their non-inclusion has no material impact on the presentation of the net assets, financial position and results of operations. Zeppelin measures the shares in these companies at fair value through profit or loss. The fair values largely correspond to the historical acquisition costs.

Name	Registered office		Equity share in %		Net profit/loss 2021 in kEUR[2]	Equity at 12/31/2021 in kEUR[2]
	Country	Town/City	12/31/ 2021	12/31/ 2020		
Energyst Germany GmbH (acquired as a share deal in 2021)	Germany	Duisburg	100.0	-	0	25
Luther Verwaltungs GmbH	Germany	Hoppstädten-Weiersbach	100.0	100.0	0	22
Fehmarnbelt Solution Services A/S	Denmark	Greve	100.0	100.0	0	738
SITECH Austria GmbH	Austria	Steyr	100.0	100.0	636	693
Levotec s.r.o.	Slovak Republic	Levoča	100.0	100.0	0	1,128
Meton s.r.o.	Czech Republic	Tuchoměřice	100.0	100.0	0	622
Construction SITECH CZ s.r.o.	Czech Republic	Brno	100.0	100.0	0	1,636

The in 2019 acquired Baltic Marine Contractors OÜ, Tallinn, Estonia, and PJSC "Ukrcukorteploi-zolyaciya" (UCTI), Vyshneve, Ukraine, were included in the consolidation group for the first time as of January 1, 2021. For further information, please refer to the section *"Business combinations"*.

Associates

The following associate is included in the consolidated financial statements using the equity method:

Name	Registered office		Equity share in %	
	Country	Town/City	12/31/2021	12/31/2020
CZ Loko a.s.	Czech Republic	Česká Třebová	49.0	49.0

CZ Loko, a.s., whose registered office is in Česká Třebová (Czech Republic), is an associate accounted for using the equity method and is a strategic sales partner of Zeppelin. The company mainly manufactures, repairs, and sells railway traction vehicles, metal structures, and machinery. Zeppelin CZ s.r.o. holds 49.0% of the shares and thus participates in the decision-making process. In addition, the Management Board and commercial management of Zeppelin CZ s.r.o. are members of the Supervisory Board of CZ Loko.

Joint operations

Zeppelin Power Systems GmbH established a legally independent economic entity in the previous year in the form of a civil-law partnership together with a consortium partner. The consortium bears the name "Konsortium BHKW Oberhausen" and its purpose is the joint delivery, construction, and commissioning of a turnkey combined heat and power plant. The consortium was classified as a joint operation as the consortium had rights to the assets and obligations for the liabilities of the joint arrangement under the consortium agreement. Zeppelin had recognized the related assets and liabilities as well as expenses and income at the amount of the schedule of participation of 67.1%. The project was completed in financial year 2021 with the turnkey handover of the CHP plant to the customer. The consortium will continue to exist for the duration of the warranty period.

Together with another shareholder, Zeppelin Rental GmbH founded an umbrella working group in the form of a civil-law partnership. The umbrella working group bears the name "WIM A43 Emschertalbrücke" and has as its purpose the joint construction of a barrier/cradle system for the A43 Emschertal Bridge between Recklinghausen and Herne. The working group is classified as a joint operation as the shareholders have rights to the assets and obligations for the liabilities of the joint arrangement under the umbrella working group agreement. Zeppelin recognizes the related assets and liabilities as well as expenses and income at the amount of the provisional schedule of participation of 48.9%.

[2] Local GAAP financial statements

Subsidiaries with significant non-controlling interests

The consolidated financial statements include the following subsidiaries with significant non-controlling interests:

Name	Registered office		Equity share in %	
	Country	Town/City	12/31/2021	12/31/2020
Smart Controls India Ltd.	India	Madhya Pradesh	40.0	40.0
Zeppelin Systems China (Shanghai) Co. Ltd.	China	Shanghai	40.0	40.0
Zeppelin Systems Italy S.r.l.	Italy	Milan	-	10.0

The following tables present financial information on Smart Controls India Ltd. before intragroup eliminations:

in kEUR	Smart Controls India Ltd. 12/31/2021	Smart Controls India Ltd. 12/31/2020
Net assets		
Current assets	2,812	2,853
Non-current assets	455	457
Current liabilities	-765	-801
Non-current liabilities	-143	-140
	2,359	**2,369**
Share in %	40.0	40.0
	943	**948**

in kEUR	Smart Controls India Ltd. 2021	Smart Controls India Ltd. 2020
Net profit or loss after tax		
Sales	2,885	3,979
Net profit or loss	-43	611
Share in %	40.0	40.0
	-17	**244**

in kEUR	Smart Controls India Ltd. 2021	Smart Controls India Ltd. 2020
Cash flow from operating activities		
Cash flow from operating activities	792	344
Share in %	40.0	40.0
	317	**137**
Cash flow from investing activities		
Cash flow from investing activities	44	26
Share in %	40.0	40.0
	18	**10**
Cash flow from financing activities		
Cash flow from financing activities	-335	-322
Share in %	40.0	40.0
	-134	**-129**
Dividends	**47**	**46**

The following tables present the financial information on Zeppelin Systems China (Shanghai) Co. Ltd. before intragroup eliminations:

in kEUR	Zeppelin Systems China (Shanghai) Co. Ltd. 12/31/2021	12/31/2020
Net assets		
Current assets	81,444	58,613
Non-current assets	773	711
Current liabilities	-50,511	-34,139
Non-current liabilities	-462	-299
	31,243	**24,887**
Share in %	40.0	40.0
	12,497	**9,955**

in kEUR	Zeppelin Systems China (Shanghai) Co. Ltd. 2021	2020
Net profit or loss after tax		
Sales	83,472	76,688
Net profit	8,547	10,304
Share in %	40.0	40.0
	3,419	**4,122**

in kEUR	Zeppelin Systems China (Shanghai) Co. Ltd. 2021	2020
Cash flow from operating activities		
Cash flow from operating activities	16,716	-1,328
Share in %	40.0	40.0
	6,686	**-531**
Cash flow from investing activities		
Cash flow from investing activities	30	-346
Share in %	40.0	40.0
	12	**-139**
Cash flow from financing activities		
Cash flow from financing activities	-5,155	-5,028
Share in %	40.0	40.0
	-2,062	**-2,011**

The following tables present financial information on Zeppelin Systems Italy S.r.l. before intragroup eliminations. As the outstanding non-controlling interests of 10% were acquired in fiscal year 2021, the information for the current fiscal year is omitted:

in kEUR	Zeppelin Systems Italy S.r.l. 12/31/2020
Net assets	
Current assets	5,795
Non-current assets	813
Current liabilities	-2,455
Non-current liabilities	-1,231
	2,921
Share in %	10.0
	292

in kEUR	Zeppelin Systems Italy S.r.l. 2020
Net profit or loss after tax	
Sales	4,433
Net profit	239
Share in %	10.0
	24

in kEUR	Zeppelin Systems Italy S.r.l. 2020
Cash flow from operating activities	
Cash flow from operating activities	-25
Share in %	10.0
	-3
Cash flow from investing activities	
Cash flow from investing activities	-1
Share in %	10.0
	0
Cash flow from financing activities	
Cash flow from financing activities	-198
Share in %	10.0
	-20
Dividends	**11**

BUSINESS COMBINATIONS

Foundation of Zeppelin Digital GmbH and subsequent change of name

Zeppelin GmbH established Zeppelin Digital GmbH, Berlin, with effect from August 26, 2021. The company had a share capital of EUR 25,000 at the time of its foundation and initial consolidation. By resolution of the shareholders' meeting of September 17, 2021 and announcement of October 5, 2021, the company name was changed to Zeppelin Lab GmbH.

The new company was established to continue the "Venturing" business activities of the previous Zeppelin Lab GmbH, after the original company concentrated on the further scaling of the "klickrent" and "klickcheck" products, as its own umbrella brand under the name Accelerent GmbH.

Restructuring of the Luther Group

On July 31, 2021, all assets relating to the areas of traffic telematics, traffic safety, and safety barriers were transferred for no consideration from Luther HL GmbH & Co. KG to Zeppelin Rental GmbH. In the course of the transfer, the 55% shares in Meton GmbH were also assigned to Zeppelin Rental GmbH. Following this step, Zeppelin Rental GmbH held 100% of the shares in Meton GmbH. At the same time as the transfer for no consideration, the assets for the rental business of Meton GmbH (safety barrier rental) were sold to Zeppelin Rental GmbH.

With effect from August 1, 2021, Zeppelin Rental GmbH contributed all limited partner shares in Luther HL GmbH & Co. KG into Meton GmbH. With the exit of Luther Verwaltungs GmbH from Luther HL GmbH & Co. KG on September 1, 2021, the remaining assets of Luther HL GmbH & Co. KG were transferred to Meton GmbH by way of an accrual as universal succession.

Following the takeover of the Luther Group in 2019, the restructuring will serve to realign the construction site and traffic safety division in terms of organization and company law.

For the Zeppelin Group, the intragroup restructuring had no impact on the consolidated financial statements, as all companies were already fully consolidated in the past.

Change of legal form of Zeppelin Power Systems

With the entry of September 7, 2021, Zeppelin Power Systems GmbH & Co. KG, Hamburg was merged into Zeppelin Power Systems GmbH, Hamburg, with retroactive effect from January 1, 2021.

Zeppelin Power Systems GmbH was founded in 2020 as a subsidiary of Zeppelin Power Systems GmbH & Co. KG. The purpose of the downward merger is to change the legal form to a corporation, and it has no effect on the consolidated financial statements, as both companies were already fully consolidated in the past.

Upward merger Zeppelin Struktur GmbH

With the merger agreement of November 26, 2021, Zeppelin Struktur GmbH was merged into Zeppelin GmbH with retroactive effect from January 1, 2021 as part of an optimization under company law.

All assets and liabilities were already included in the consolidated financial statements beforehand.

Upward merger of IBS Bauvermessungs GmbH

With the entry of July 1, 2021, IBS Bauvermessungs GmbH was merged into SITECH Deutschland GmbH with retroactive effect from January 1, 2021.

Prior to this, IBS Bauvermessungs GmbH, which had previously not been included in the consolidated financial statements for reasons of materiality, was included in consolidation group for the fist time. The fair value of the participation at the time of initial consolidation was EUR 884 thousand.

The initial consolidation was carried out at the fair value of the transferred assets and liabilities, which were as follows:

in kEUR	
Assets	
Current assets	
Cash and cash equivalents	197
Other financial assets	3
Trade receivables	71
Other assets	14
Inventories	1
	286
Non-current assets	
Intangible assets	290
Property, plant, and equipment	96
	386
	672
Liabilities	
Current liabilities	
Financial liabilities	300
Trade payables	11
Other liabilities	7
Employee benefits	27
Provisions	46
	391
Net assets	**281**

The gross amounts of receivables correspond to their fair values. No bad debts were identified.

A customer base and an order backlog with a useful life of 10 years and one year, respectively, were recognized as part of the purchase price allocation.

In addition, goodwill of EUR 603 thousand was capitalized. The goodwill reflects the expansion of the product and service portfolio to include data services (in particular the creation of digital terrain models) and the know-how, the existing sales network, and the well-trained and experienced staff in this area.

Initial consolidation of Baltic Marine Contractors OÜ

With effect from January 1, 2021, Baltic Marine Contractors OÜ, which had previously not been included in the consolidated financial statements for reasons of materiality, was consolidated for the first time. The fair value of the participation at the time of initial consolidation was EUR 822 thousand.

The company was acquired in 2019.

The initial consolidation was carried out at the fair value of the transferred assets and liabilities, which were as follows:

in kEUR	
Assets	
Current assets	
Cash and cash equivalents	964
Other financial assets	16
Trade receivables	212
Other assets	27
Inventories	200
	1,418
Non-current assets	
Property, plant, and equipment	44
	44
	1,462
Liabilities	
Current liabilities	
Financial liabilities	12
Trade payables	127
Other financial liabilities	202
Contract liabilities	15
Other liabilities	49
Employee benefits	102
Provisions	32
	540
Non-current liabilities	
Financial liabilities	22
	22
	562
Net assets	**900**

The gross amounts of receivables correspond to their fair values. No bad debts were identified.

The initial consolidation resulted in a negative difference of EUR 78 thousand.

Initial consolidation of PJSC "Ukrcukorteploi-zolyaciya" (UCTI)

With effect from January 1, 2021, PJSC "Ukrcukorteploi-zolyaciya" (UCTI), which had previously not been included in the consolidated financial statements for reasons of materiality, was consolidated for the first time. The fair value of the participation at time of initial consolidation was EUR 472 thousand.

The company was acquired in 2016.

The initial consolidation was carried out at the fair value of the transferred assets and liabilities, which were as follows:

in kEUR	
Assets	
Current assets	
Other financial assets	23
Other assets	56
	79
Non-current assets	
Property, plant, and equipment	1,466
	1,466
	1,545
Liabilities	
Current liabilities	
Financial liabilities	920
Other financial liabilities	26
Other liabilities	19
Employee benefits	3
	968
Non-current liabilities	
Financial liabilities	105
	105
	1,073
Net assets	**472**

Acquisition and restructuring of Energyst companies

With effect from January 7, 2021, Zeppelin Rental GmbH acquired all shares in Energyst Germany GmbH and all limited partner shares in Energyst Rental Solutions GmbH & Co. KG. Zeppelin Sverige AB also acquired all shares in Energyst Rental Solutions AB Sweden with effect from January 7, 2021. The sellers of the companies were Energyst B.V. and Energyst Holdings B.B.

The purpose of the acquisition is to improve the range of temporary energy and air conditioning solutions in Germany and to expand the business with flexible energy and air conditioning solutions in Sweden. The total purchase price of the transaction was EUR 7,975 thousand.

The acquisitions were carried out at the fair value of the transferred assets and liabilities, which were as follows:

in kEUR	
Assets	
Current assets	
Cash and cash equivalents	2,268
Trade receivables	324
Other assets	96
Inventories	131
	2,819
Non-current assets	
Property, plant, and equipment	5,594
	5,594
	8,413
Liabilities	
Current liabilities	
Trade payables	148
Other liabilities	151
Employee benefits	139
	438
Net assets	**7,975**

The gross amounts of receivables correspond to their fair values. No bad debts were identified.

Based on an analysis of possible hidden reserves, there was no purchase price allocation, as the core business is the rental of power and air conditioning equipment, which was acquired at fair value.

With the exit of Energyst Germany GmbH as general partner of Energyst Rental Solutions GmbH & Co. KG, the assets of Energyst Rental Solutions GmbH & Co. KG were transferred to Zeppelin Rental GmbH by way of an accrual as universal succession as of August 1, 2021. Furthermore, Energyst Rental Solutions AB was merged into Zeppelin Sverige AB at the end of the year.

MTI Mischtechnik International GmbH

With effect from January 1, 2021, Zeppelin Systems GmbH acquired the main assets of MTI Mischtechnik International GmbH, which became insolvent in 2020, as part of an asset deal.

The acquisition will further strengthen the market position in the mixer business. The total purchase price of the transaction was EUR 1,398 thousand.

The acquisition was carried out at the fair value of the transferred assets and liabilities, which were as follows:

in kEUR	
Assets	
Current assets	
Inventories	470
	470
Non-current assets	
Intangible assets	645
Property, plant, and equipment	259
	904
Net assets	**1,374**

As part of the purchase price allocation, a customer base with a useful life of 10 years was recognized.

In addition, goodwill of EUR 24 thousand was capitalized. This reflects the strengthening of the current mixer business through the acquisition of customer data and technical documentation.

C Accounting Policies

Zeppelin has consistently applied the following accounting policies in all periods presented.

Consolidation and Participations

The consolidated financial statements comprise Zeppelin GmbH and its subsidiaries. A subsidiary is a company which is directly or indirectly controlled by Zeppelin GmbH. Control exists when Zeppelin has the power over the investee, has a risk exposure, or rights, to variable returns from its involvement with the investee and has the ability to use its power over the investee to affect the amount of the investor's returns. If facts and circumstances indicate that one or more of the three elements of control have changed, Zeppelin reassess whether it controls an investee. In the case of structured companies, control may arise from contractual arrangements.

Zeppelin assigns the consolidated net profit after tax and each component of the other comprehensive income to the shareholders of Zeppelin GmbH and those of the non-controlling interests. The total comprehensive income is allocated to the shareholders of Zeppelin GmbH and the non-controlling interests even if this results in a negative balance for the interests of non-controlling interests.

An entity is included in the consolidated financial statements from the date on which Zeppelin obtains control of the subsidiary. Assets, liabilities, income and expenses of a subsidiary acquired or disposed of during the reporting period are recognized in the consolidated financial statements from the date on which Zeppelin obtains control of the subsidiary until the date on which control ceases.

All intragroup assets and liabilities, equity, income and expenses and cash flows from transactions between Group companies are eliminated on consolidation.

Uniform accounting and valuation principles are used for preparing the annual statements of those companies included in the consolidated financial statements.

A list of the subsidiaries of Zeppelin GmbH is included in the "Consolidation Group" section.

If the proportion of equity held by non-controlling interests changes, the carrying amounts of the controlling and non-controlling interests are adjusted to reflect the changes in their relative ownership interests in the subsidiary. Zeppelin recognizes any difference between the amount by which the non-controlling interests are adjusted and the fair value of the consideration paid or received directly in equity and allocates it to Zeppelin GmbH shareholders.

Consolidation ends when Zeppelin relinquishes control of the subsidiary. In this case, the associated assets (including goodwill), liabilities, non-controlling interests, and other components of equity are derecognized. Any resulting gain or loss is recognized in the statement of profit or loss. Any retained participation is accounted for either at fair value or, in the case of investments in associates and joint ventures, using the equity method.

Business combinations are accounted for using the acquisition method. The acquisition costs arising from the company acquisition are measured as the sum of the consideration transferred, which is measured at the fair value on the acquisition date, and the value of the non-controlling interests in the acquired company. For each business combination, Zeppelin determines whether non-controlling interests are measured at fair value or at the proportionate share of the acquired entity's identified net assets. The costs arising from the business combination are recognized as administrative expenses. Goodwill arising from a business combination is initially measured at cost, being the difference between the sum of the consideration transferred, the amount of non-controlling interests and the previously held interests over the identifiable assets acquired and liabilities assumed. If the fair value of the net assets acquired exceeds the total consideration transferred, the difference is recognized in the statement of profit or loss. Goodwill is tested for impairment annually and written down to the lower recoverable amount if necessary.

Joint arrangements in which two or more parties have joint control over an activity are classified as either joint operations or joint ventures.

A joint operation exists when the parties involved in joint control (joint operators) have rights to the assets or obligations for the liabilities attributable to the arrangement. A joint operator recognizes its attributable assets, liabilities, incomes, and expenses and its share of the joint assets, liabilities, incomes and expenses.

In a joint venture, however, the parties sharing in the joint control (venturers) have rights to the net assets of the entity. Associates are entities over which Zeppelin exercises significant influence and which are neither subsidiaries nor joint ventures.

Investments in associates and joint ventures are accounted for using the equity method. The investment is initially recognized at cost but subsequently adjusted for any changes in Zeppelin's share of the net assets of the associated company or joint venture.

Zeppelin's share of the net profit after tax of the associate or joint venture is reported in the consolidated statement of profit or loss, its share of other income in other comprehensive income.

Where necessary, adjustments are made to the uniform Group accounting policies and valuation methods.

Zeppelin determines annually at the reporting date whether there is any objective evidence that the investment in an associate or joint venture may be impaired.

Intragroup balances and transactions as well as income and expenses from intragroup transactions are eliminated when preparing the consolidated financial statements.

Gains and losses on transactions with companies accounted for using the equity method are eliminated against Zeppelin's interest in the associated company to the amount of Zeppelin's interest. However, losses are only eliminated to the extent that there is no indication of impairment. When the associate sells the products resulting from intragroup deliveries, these corrections are reversed in the statement of profit or loss or in subsequent years by adjusting the Group retained earnings.

Foreign Currency Valuation

Each company translates foreign currency transactions into the functional currency of that company at the transaction date. In subsequent periods, companies measure monetary assets and liabilities at the closing rate. Non-monetary items denominated in foreign currencies continue to be measured at the historical exchange rate at the transaction date. Exchange differences arising from measurement in the functional currency of the respective company are recognized in the statement of profit or loss.

Assets and liabilities of companies not belonging to the eurozone are translated into the reporting currency of the Group (euro) at the closing rate, income and expenses at the average rate of their respective functional currency. Differences arising from translation using the reporting currency are recognized in other comprehensive income.

	12/31/2021	12/31/2020
Closing rate		
EUR/CZK	24.86	26.24
EUR/DKK	7.44	7.44
EUR/GBP	0.84	0.90
EUR/PLN	4.60	4.56
EUR/RUB	85.30	91.47
EUR/SEK	10.25	10.03
EUR/USD	1.13	1.23
EUR/UAH	30.92	34.74

	2021	2020
Average rate		
EUR/CZK	25.64	26.46
EUR/DKK	7.44	7.45
EUR/GBP	0.86	0.89
EUR/PLN	4.57	4.44
EUR/RUB	87.15	82.72
EUR/SEK	10.15	10.48
EUR/USD	1.18	1.14
EUR/UAH	32.29	30.79

Impairment Tests

At each reporting date, Zeppelin determines whether there is any indication that an asset may be impaired. If such an indication exists, Zeppelin performs an impairment test.

In order to carry out impairment tests, the assets concerned must generate cash inflows that are largely independent of those attributable to other assets. This applies to individual assets only in a few cases. Generally, individual assets must be combined into larger cash-generating units (CGUs) for the impairment test.

For the impairment test, the carrying amount of the CGU or the individual asset is compared with the recoverable amount. The recoverable amount represents the amount that Zeppelin can realize by continuing to include the CGU or individual asset into its operations (represented by value in use) or by selling it (represented by fair value less costs to sell). If the recoverable amount is less than the carrying amount of the asset or CGU, an impairment loss to the recoverable amount is recognized as an expense.

Goodwill acquired in business combinations is allocated to those CGUs or groups of CGUs that are expected to benefit from the synergies of the combination. For Zeppelin, each SBU represents a group of CGUs to which goodwill is allocated for impairment testing.

Zeppelin generally determines the recoverable amount of CGUs or individual assets at fair value less costs to sell. The DCF method is applied. The cash flows used for the calculation are derived from the mid-term plan approved by management for the next three years on an after-tax basis. The expected cash flows after this period are extrapolated using growth rates. The growth rates are shown in the Notes to the Balance Sheet ("Intangible Assets" section). The cost of capital after taxes is used to determine the present value. The fair value determined in this way falls into level 3 of the fair value hierarchy.

If an impairment loss is recognized for a CGU, it is first allocated to the goodwill attributable to that CGU and then allocated proportionately to the remaining carrying amounts of the CGU.

Impairment losses on goodwill are not reversed. For other assets, the reversal of impairment losses is limited to a maximum of amortized cost.

Classification by Maturity

Zeppelin classifies assets and liabilities in the balance sheet according to maturity.

Assets and liabilities are classified as current if their realization is expected within twelve months of the reporting date. All other assets and liabilities are classified as non-current.

Bank liabilities under the syndicated credit facility of Zeppelin GmbH are reported under non-current liabilities insofar and as long as the remaining term of the syndicated credit facility agreement at the reporting date is at least 12 months.

Sales from Contracts with Customers

Zeppelin recognizes sales when performance obligations to customers are met by the transfer of an agreed good or the provision of an agreed service.

Sales are measured at the transaction price. The transaction price is the consideration expected to be received by the Group for the transfer of the goods or provision of the services. Variable transaction price components such as rebates, cash discounts, contractual penalties, or customer bonuses reduce sales.

Customer payments are generally due upon performance or as milestone payments according to specific payment schedules.

With a few exceptions, Zeppelin generates sales in the project business based on the progress on work performed over a given period.

Zeppelin recognizes sales from services both at a point in time and over time. In the case of time-based service provision, sales are recognized at the amount of the billable consideration after the service has been rendered. Period-based sales recognition is done either according to the performance progress or at the amount of the billable consideration.

If a specified threshold value is exceeded, the performance progress is determined at the ratio of the costs incurred in the period to the estimated total costs. Below this threshold, sales may not be realized in excess of the costs incurred during the period. Contract amendments may result in both adjustments to the transaction price and adjustments to the performance progress.

Sales from selling products for which Zeppelin has a repurchase obligation (hereinafter "RPO transactions") are recognized as a sale with right of return or as a lease, depending on the contractual arrangements between the sales financing partner and the end customer. If the agreement between the sales financing partner and the end customer includes an option to return the contractual item, it is accounted for as a sale with a right of return. On the other hand, if the agreement contains an obligation for the sales financing partner to take back the asset, it is accounted for as a lease.

For disposals deemed sales with the right of return, Zeppelin estimates the return rate at the time of sale and reduces the proceeds from the sale by the present value of the agreed repurchase prices in accordance with this rate. The present value of the repurchase prices is carried as a liability as a repurchase obligation. The amount of the repurchase obligation is reassessed in each period. Changes in estimates lead to sales corrections in the current fiscal period. If the right of return is not exercised at the end of the contract term, the repurchase obligation is reversed through the statement of profit or loss against the realization of sales.

For disposals deemed as leases, the proceeds from the disposal are deferred in full – partly as a financial liability, partly as deferred sales – on the liabilities side. The present value of the repurchase prices is carried as a financial liability. The difference between the proceeds from the disposal and the financial liability is carried on the liabilities side as deferred sales and recognized as rental income and interest income on a straight-line basis over the term of the contract.

Rental income relates primarily to operating leases. Income from operating leases is recognized on a straight-line basis over the term of the lease.

Income from warranty extensions is deferred as a liability and recognized on a straight-line basis over the term of the contract.

Construction Equipment CE SBU

The business activities of the Construction Equipment CE SBU mainly comprise the sale, rental, and servicing of construction machines (partly with extended warranty). Contracts from the sale of construction machines and services are not combined.

Sales from selling construction machines are recognized upon delivery and transfer of control to the customer. For bill-and-hold agreements, sales are recognized upon invoicing.

Sales may also be made as RPO transactions. The timing of sales recognition in these cases depends on whether the transaction is classified as a sale with right of return or as a lease.

Sales from service contracts are recognized at a point in time and over time.

Construction Equipment Eurasia SBU

The business activities of the Construction Equipment Eurasia SBU mainly comprise the sale, rental, and servicing of construction machines and agricultural equipment (partly with extended warranty). Contracts from the sale of construction machines and agricultural equipment and services are not combined.

Sales from the selling of construction machines and agricultural equipment are recognized upon delivery and transfer of control to the customer.

Sales may also be made as RPO transactions. The timing of sales recognition in these cases depends on whether the transaction is classified as a sale with right of return or as a lease.

Sales from service contracts are recognized at a point in time and over time.

Construction Equipment Nordics SBU

The business activities of the Construction Equipment Nordica SBU primarily comprise the sale, rental, and servicing of construction machines and mining equipment (partly with extended warranty). Contracts from the sale of construction machines and services are not combined.

Sales from the selling of construction machines and mining equipment are recognized upon delivery and transfer of control to the customer.

Sales may also be made as RPO transactions. The timing of sales recognition in these cases depends on whether the transaction is classified as a sale with right of return or as a lease.

Sales from service contracts are recognized at a point in time and over time.

Rental SBU

The Rental SBU rents out construction machines as well as a wide range of construction equipment, modular room systems, construction site and traffic guidance systems, work platforms, forklifts and lifts, and vehicles. In addition, a comprehensive range of services is offered, including in project business.

Rentals and services represent separate performance obligations. The transaction price is allocated to the individual performance obligations on the basis of the contracted prices.

The rental business is carried out by way of an operating lease.

Sales from services are recognized at a point in time and over time.

Sales from the project business are recognized at the time of invoicing at the amount of the chargeable consideration.

Since December 31, 2019, the Rental SBU has also operated in the markets of Sweden and Denmark due to the acquisitions made in the previous year.

Power Systems SBU

The business activities of the Power Systems SBU comprise the distribution and service of engine and drive solutions (some with extended warranties). In addition, services in the project business are provided through the sale of, inter alia, generating sets for power generation and combined heat and power plants.

Sales from selling engines and drive solutions are recognized upon delivery and transfer of control to the customer. In the case of delivery to consignment warehouses, sales are recognized at the time the consignment is delivered to the warehouse, as control passes to the customer at this time.

Sales from servicing are recognized at a point in time and over time.

Sales from the project business are mainly recognized over time according to the performance progress.

If a customer receives the option to purchase additional engines at fixed prices at the time the contract is concluded, part of the transaction price is allocated to this option and realized when the option is exercised or lapses.

Since December 31, 2019, the Power Systems SBU has also operated in the markets of Sweden, Denmark, and Greenland due to the acquisitions made in the previous year, and in Estonia, Latvia, Lithuania, Finland, Iceland, and the Faroe Islands for the distribution and service of the MaK engine brand.

Plant Engineering SBU

The business activities of the Plant Engineering SBU comprise the development, implementation, and manufacture of customer-specific plants for the storage and processing of high-quality bulk materials, and the development and manufacture of components. In addition, the SBU offers various after-sales and quality services.

Sales from the project business are recognized over time according to the performance progress.

If only development services are offered, sales are recognized when control over the development results is transferred to the customer.

Sales from the selling of components are recognized upon delivery and transfer of control to the customer.

Sales from quality services are recognized at the time of invoicing at the amount of the charged consideration.

Sales from after-sales services are recognized at a point in time and over time.

Income Taxes

The tax expense for the period consists of current and deferred taxes. Taxes have been recognized in the statement of profit or loss unless they relate to items recognized directly in equity or in other comprehensive income. In this case, the taxes have been recognized in equity or in other comprehensive income.

The current tax claims and tax liabilities are determined in accordance with the tax regulations applicable on the reporting date.

Offsetting of current tax assets and liabilities is permitted only if the Group has a legally enforceable right to set off current tax assets against current tax liabilities and the tax assets and liabilities relate to income taxes levied by the same tax authority either on the same taxable entity or on different taxable entities. This means tax entities which intend either to settle current tax liabilities and assets on a net basis, or to realize the assets and settle the liabilities simultaneously, in each future period in which significant amounts of deferred tax liabilities or assets are expected to be settled or recovered.

For uncertain income tax items, the best estimate is the probable expected tax payment.

Deferred taxes are recognized for temporary differences between the carrying amounts under IFRS and the tax base of assets and liabilities, and for tax loss carryforwards and tax credits. Deferred taxes are not recognized for temporary differences arising on initial recognition of an asset or liability if the assets or liabilities result from a transaction that is not a business combination and, at the time of the transaction, affects neither profit or loss before tax nor taxable income.

Zeppelin recognizes deferred tax assets only to the extent that it is probable that future taxable result will be available against which the deductible temporary differences and unused tax losses and credits can be offset. Zeppelin tests deferred tax assets for impairment at each reporting date.

Deferred tax liabilities arising from temporary differences in connection with participations in subsidiaries, associates and interests in joint ventures are recognized by Zeppelin, unless the timing of the reversal of the temporary differences can be controlled and it is probable that the temporary differences will not reverse in the foreseeable future.

Unrecognized deferred tax assets are reassessed at each reporting date and are recognized to the extent that it has become probable that future taxable profits will allow the deferred tax asset to be recovered.

Deferred tax assets and liabilities are measured at the tax rates which, according to current estimates, apply in accordance with the current legal situation.

Deferred tax assets and deferred tax liabilities are offset if they relate to the same tax authority and the same taxable entity or to a group of different taxable entities that are jointly assessed for income tax purposes. Deferred taxes from short-term temporary differences are not offset with deferred taxes from long-term temporary differences.

Inventories

Inventories are carried at the lower of cost or net realizable value. In addition to directly attributable direct costs, production costs also include overheads attributable to the production process.

Depending on the business model and market conditions, the portfolio value is determined using the first-in, first-out method or the average method.

Intangible Assets

Goodwill arising on business combinations is measured at the acquisition date at the excess of the consideration received for the shares acquired in the companies over the net assets acquired. The net assets correspond to the difference between the fair values of the acquired assets and the fair values of the assumed liabilities and contingent liabilities.

Goodwill is not subject to scheduled amortization but is tested for impairment annually or when there are indications that it may be impaired. Details of the annual impairment test are presented in the "Impairment Tests" section.

Expenses for the development of new products are carried on the assets side as development costs if the products are technically and economically feasible and intended for the Group's own use or marketing, the expenses can be reliably measured, and sufficient resources are available to complete the development project.

Production costs of internally generated intangible assets include direct costs as well as overheads attributable to the development process. Development expenses that do not meet the criteria set out in the previous paragraph, and research expenses are recognized immediately in the statement of profit or loss. Internally generated intangible assets are amortized on a straight-line basis over their useful lives and written down if there are indications of impairment.

Individually acquired intangible assets are carried at cost.

Intangible assets acquired as part of a business combination are measured at fair value at the acquisition date.

Acquired intangible assets are amortized on a straight-line basis over their period of use and subjected to an annual impairment test if there are indications of impairment. Licenses and similar rights are amortized over their contractual terms. Other useful lives are as follows:

	Useful life
Software, concessions, and industrial property rights	3 – 10 years
Internally generated intangible assets	5 years

Useful lives and residual values are reassessed at each reporting date and adjusted if necessary.

Apart from goodwill, Zeppelin does not recognize any intangible assets with indefinite useful lives.

Subsequent expenses are recognized in the statement of profit or loss if they cannot be capitalized.

Property, Plant, and Equipment

Property, plant, and equipment is initially recognized at cost and subsequently measured at amortized cost less accumulated depreciation and accumulated (non-scheduled) impairment losses. Reversals of impairment losses are recognized up to the amount of the amortized cost. In addition to directly attributable direct costs, production costs also include overheads attributable to the production process.

Expenses for maintenance and repairs are recognized in the statement of profit or loss unless they are capitalized as subsequent acquisition or production costs.

Property, plant, and equipment is depreciated on a straight-line basis over its estimated useful life to its expected residual value. The useful lives of property, plant, and equipment are reassessed at each reporting date and adjusted if necessary. Land is not depreciated.

The estimated useful lives of significant property, plant, and equipment for 2021 are:

	Useful life
Building	5 – 60 years
Technical equipment and machinery	2 – 25 years
Operating and business equipment	2 – 20 years
Rental fleet	3 – 10 years

Leasehold rights are depreciated on a straight-line basis over the term of the agreement.

Borrowing Costs

If a considerable period of time elapses before a tangible asset or intangible asset is ready for operation, the borrowing costs directly attributable to the acquisition or production of the asset are capitalized. The recognition of borrowing costs begins at the commencement of acquisition or production and ends when the asset is ready for operation.

Financial Instruments

Financial instruments are contracts that give rise to a financial asset of one party and a financial liability or equity instrument of the other. These include both primary financial instruments (e.g. trade receivables, borrowings, cash and cash equivalents, loans and bonded loans, as well as trade payables and other liabilities) and derivative financial instruments (interest rate swaps, currency swaps, and forward exchange operations).

Primary financial instruments are initially recognized when they are purchased or sold on the settlement date and derivative financial instruments are initially recognized on the trading date.

A financial asset is derecognized when the contractual rights to cash flows from the asset expire or the rights to receive the cash flows and all significant opportunities and risks of ownership of the financial asset are transferred to another entity. Derecognition does not take place if all significant opportunities and risks are retained or if, in the event of risk sharing, control over the asset is retained. The retained portion of such financial assets is recognized separately as a financial asset and/or financial liability (continuing involvement).

Financial liabilities are derecognized when all contractual obligations have been met, canceled, or lapsed.

Financial assets are grouped into the following categories for measurement and reporting purposes:

- Measured at amortized cost ("AC"), which at Zeppelin includes in particular cash and cash equivalents, trade receivables and other receivables, as well as loans;
- Measured at fair value through profit or loss ("FVTPL"), which at Zeppelin includes in particular participations, interests in non-consolidated subsidiaries, and all derivatives with a positive fair value that are not accounted for in accordance with hedge accounting rules.

The following categories exist for the measurement and reporting of financial liabilities:

- AC, which at Zeppelin includes in particular loans and bonded loans, trade payables, and other liabilities;
- FVTPL, which at Zeppelin includes in particular all derivatives with a negative fair value that are not accounted for in accordance with hedge accounting rules.

The consolidated financial statements do not include financial instruments at fair value through other comprehensive income ("FVOCI").

Financial assets are allocated to the AC category if they are held exclusively to collect the contractual cash flows and the contractual payments relate exclusively to interest and principal repayments.

With few exceptions, all financial liabilities are classified as AC that do not have to be classified as FVTPL or are accounted for under hedge accounting rules.

Financial assets and financial liabilities are allocated to the FVTPL category if they are held exclusively for trading purposes. Under certain conditions it would also be possible to allocate financial instruments to this category by exercising an accounting option – the fair value option – although these financial instruments would actually have to be accounted for in accordance with the rules for the AC category. However, Zeppelin does not exercise the fair value option.

Zeppelin categorizes all financial assets and financial liabilities at the date of acquisition and periodically reassesses whether the criteria for classification are still met.

Upon initial recognition, financial instruments are measured at fair value, for financial asset or financial liabilities that are not measured at FVTPL, plus or less any directly attributable transaction costs.

The fair value generally corresponds to the transaction price. The fair value of financial assets and financial liabilities in the AC category with maturities of more than twelve months that do not bear interest or bear interest at low rates corresponds to the present value of the agreed cash flows. The present value is determined using a discount rate appropriate to the term. An exception exists for trade receivables without significant financing components. These are measured on initial recognition at the amount of the unconditional claim to consideration.

Financial assets and financial liabilities in the AC category are subsequently measured using the effective interest method. Using the effective interest method, all directly attributable fees, consideration paid or received, transaction costs, and other premiums or discounts included in the calculation of the effective interest rate are amortized over the expected term of the financial instrument.

Interest income and expenses from the application of the effective interest method are recognized in the income statement under interest income or interest expenses from financial instruments.

Financial assets and financial liabilities in the FVTPL category are subsequently measured at fair value, with changes in value recognized in the statement of profit or loss.

Derivatives embedded in contracts where the underlying is a financial asset are never accounted for separately. Instead, the hybrid financial instrument is assessed as a whole with regard to its classification. Embedded derivatives whose underlying contract is a financial liability are separated from the underlying contract and accounted for separately under certain conditions (e.g. loans with interest rate agreements that include a floor).

Zeppelin reports financial assets and financial liabilities gross. They are only offset if at the present time there is an enforceable right to set off with respect to the amounts and it is intended to settle them on a net basis.

Impairments

The calculation of loss allowances for financial assets in the AC category (as well as for contract assets from agreements with customers) is based on a forward-looking model taking into account expected credit defaults.

For non-performing financial assets, loss allowances are recorded at the gross amount. A financial asset is classified as non-performing ("definition of default") if there are significant reasons to believe that a debtor is unlikely to meet its payment obligations to Zeppelin.

Financial assets are derecognized when they are irrecoverable, for example as a result of the conclusion of insolvency proceedings.

All financial assets that are neither non-performing nor irrecoverable are collectible. These financial assets are written down at the time of initial recognition in accordance with the 12-month expected credit loss (hereinafter "12-month ECL"). In the event of a significant deterioration in creditworthiness, they are written down by the amount of the expected credit loss by maturity (hereinafter "lifetime ECL").

For trade receivables and contract assets, a simplified approach is applied in which only the lifetime ECL plays a role (hereinafter "simplified approach"). Under this approach, risk categories are created and assigned different impairment rates. The Group companies determine the default risk according to individual approaches, taking into account country and business area-specific risks. The companies use data from market data portals (including Creditreform), historical default rates, and customer-specific, forward-looking credit risk analyses.

In addition, all financial assets in the AC category (and contract assets from agreements with customers) are tested for individual impairment indicators at each reporting date. Financial assets are considered impaired if, as a result of one or more events occurring after the initial recognition of the asset, there is objective evidence that the expected future cash flows have changed negatively.

Objective evidence of an impairment can be various facts such as late payment over a certain period of time, initiation of enforcement measures, imminent insolvency or over-indebtedness, application for or opening of insolvency proceedings, or failure of restructuring measures.

Trade receivables that are already impaired upon initial recognition are carried at the net carrying amount.

Hedge Accounting

Zeppelin uses derivative and foreign currency components of primary financial instruments to hedge cash flows against interest rate and exchange rate fluctuations and to hedge fair value against interest rate fluctuations. However, the requirements for hedge accounting are applied only when the conditions for hedge accounting are met. For reasons of practicability, hedge accounting is only applied to hedges of exchange rate risks if a certain period-related threshold for the nominal volume of hedging transactions without hedge accounting is exceeded. The threshold is derived from an upper limit for the potential impact of the failure to apply hedge accounting on consolidated net profit after tax and the period accrual of expenses and income. Zeppelin designates all derivative components with a few exceptions relating to the Plant Engineering SBU.

Hedge accounting can only be applied if there is a clear hedging relationship between the hedged item and the hedging instrument with demonstrable, sufficient effectiveness. The hedging relationship must be formally documented and its effectiveness demonstrated upon initial recognition as a hedging relationship and subsequently on a quarterly basis.

The hedging relationship meets all hedge effectiveness requirements if

- the value of the hedging transaction moves in the opposite direction to the value of the hedged item,
- the credit risk does not have a dominant influence on the hedging relationship, and
- the hedging ratio of the hedging relationship reported in the balance sheet corresponds to the actual hedging ratio.

The effectiveness of hedging relationships is demonstrated by prospective effectiveness tests. In the case of currency hedges, the prospective effectiveness test is based on a comparison of the main terms of the hedging transaction with the main terms of the hedged item; in the case of interest rate hedges it is based on a statistical method (regression analysis).

Where hedge accounting is applied to derivatives or to the foreign currency component of primary financial instruments used to hedge against the risk of fluctuating cash flows ("cash flow hedges"), the effective portion of changes in the fair value of the derivative are recognized in other comprehensive income and reported in the accumulated other comprehensive income for hedge accounting. The effective change in value is the smaller of the cumulative change in value of the hedging instrument and the cumulative change in value of the hedged item. The undesignated and ineffective portion of the change in value continues to be recognized in the statement of profit or loss. If the hedging transactions relate to cash flows from operating activities, the portion of the change in value recognized in the statement of profit or loss is reported under other expenses and income. Otherwise, they are reported under other financial expenses and income.

Effectiveness is the degree to which the changes in value of the hedged item and the hedging instrument offset each other. The effective and ineffective portions of the change in value are determined using the cumulative dollar offset method.

The amount recognized in accumulated other comprehensive income is reclassified to the statement of profit or loss in the same period or periods in which the hedged expected cash flows or hedged item affect the profit or loss.

Hedge accounting is discontinued as soon as a forecast transaction is no longer probable and the hedging instrument no longer meets the criteria for hedge accounting, expires, or is sold, terminated, or exercised. The hedging transaction is henceforth be accounted for in accordance with the rules for financial assets and financial liabilities in the FVTPL category. If a forecast transaction is no longer expected to occur, the amount previously recognized in accumulated other comprehensive income for hedge accounting is immediately reclassified to the statement of profit or loss. In all other respects, the reclassification of the amounts previously recognized in accumulated other comprehensive income for hedge accounting follows the same principles as for continuing cash flow hedges.

In the case of hedging relationships used to hedge changes in the fair value of assets, liabilities, or off-balance-sheet firm commitments (hereinafter "fair value hedges"), the changes in the fair value of the hedged item attributable to the risk, and the changes in the fair value of the hedging derivative are recognized in the statement of profit or loss and reported net. For financial instruments measured at amortized cost, the cumulative adjustments are amortized over the (remaining) term.

Fair Value

Fair values are determined on the basis of a three-level hierarchy based on the proximity of the valuation factors used to an active market (hereinafter the "fair value hierarchy"). A market is referred to as "active" if quoted prices are readily and regularly available on that market and these prices are based on actual, regularly occurring market transactions.

Level 1: The fair value corresponds to a price for identical assets and liabilities quoted on active markets (unchanged).

Level 2: The fair value is based on market data that is either directly or indirectly observable for the asset or liability and that does not represent quoted prices under Level 1.

Level 3: The fair value is based on input data that is not quoted prices under Level 1 and not derived from directly or indirectly observable market data.

The fair values of Levels 2 and 3 are determined using financial valuation methods (e.g. discounted cash flow models). They correspond to the prices that would be received between independent market participants for the sale of an asset or paid for the transfer of a liability.

The fair values underlying these consolidated financial statements have been determined on the basis of the market conditions prevailing on the reporting date.

Reclassifications between the levels of the fair value hierarchy require a separate explanation in the notes to the consolidated financial statements. The periods covered by these consolidated financial statements do not include any reclassifications between hierarchical levels.

CASH AND CASH EQUIVALENTS

Cash and cash equivalents comprises cash (cash on hand and bank balances) and cash equivalents. Cash equivalents are short-term, highly liquid financial investments with initial maturities of less than 3 months that can be converted into fixed cash amounts at any time and subject to insignificant fluctuations in value.

EMPLOYEE BENEFITS

Obligations for short-term employee benefits are recognized as personnel expenses as soon as the related work is performed. In addition, a liability is recognized for performance already provided by the employee if there is a legal or constructive obligation to pay that benefit at the reporting date and the amount of the obligation can be reliably estimated.

Post-employment benefits include defined contribution and defined benefit plans.

For defined contribution plans, Zeppelin's obligation is limited to the payment of fixed contributions. The pension payments themselves are made by an external institution (e.g. an insurance company) without triggering further obligations for Zeppelin. All other forms of pension provision are defined benefit plans. This also applies to pension provision covered by pension plans if Zeppelin is obliged to make additional payments to achieve a guaranteed minimum return.

Payments for defined contribution plans are recognized as personnel expenses in the period in which the related work is performed. Prepaid contributions are recognized as an asset to the extent that there is a right to reimbursement or reduction of future payments.

In the case of defined benefit plans, the obligations are determined annually using the projected unit credit method by actuarial valuation. For each plan, economic trend assumptions (e.g. salary and pension trends) are taken into account in addition to estimates of the future benefits which the employees have tendered in the current and previous periods. This amount is discounted at a discount rate appropriate to the term and offset against the fair value of the plan assets. The discount rate used to determine the actuarial present value of promised retirement benefits is determined on the basis of returns at the reporting date on high-quality fixed-rate corporate bonds denominated in the same currency and with the same maturity as the benefit entitlements earned at the measurement date.

Any excess of plan assets over pension obligations resulting from this calculation is limited in amount to the present value of the economic benefits available in the form of repayments or reductions in future contributions. When calculating the present value of an economic benefit, applicable minimum funding requirements must also be taken into account.

Gains and losses from the revaluation of the pension obligation are recognized directly in other comprehensive income. The revaluation includes the actuarial gains and losses, the return on plan assets (excluding interest), and the effect of any asset ceiling (excluding interest). The service cost, which represents the additional entitlements of employees acquired in the fiscal year, is part of personnel expenses. The interest result, which is calculated as the imputed interest on the basis of the actuarial interest rate applicable to the net obligation or net assets at the beginning of the fiscal year, is recognized in the net financial result.

Past service cost and gains and losses on plan settlements are recognized immediately as personnel expenses in the period in which the change, curtailment, or settlement occurs.

Other long-term employee benefits mainly comprise anniversary provisions and provisions for partial retirement obligations. Valuation is based on the valuation principles for defined benefit pension plans. Obligations from partial retirement agreements are offset against the fair value of the plan assets. A surplus of assets is reported under other assets. Effects from revaluations are recognized in personnel expenses in the period in which they arise.

Termination benefits are recognized as an expense at the earlier of the following two dates: when Zeppelin can no longer withdraw the offer or when the restructuring measures have been decided and communicated. If it can be assumed that the benefits will not be settled in full within twelve months of the reporting date, they must be discounted.

OTHER PROVISIONS

Other provisions are recognized for all currently identifiable risks and contingent liabilities that will result in a future economic burden and the amount of which can be reliably estimated.

Provisions are recognized at the amount required to settle the obligations on the basis of the best estimate. Non-current provisions are recognized at present value if the effect of discounting is material.

LEASING

Zeppelin acts as both lessee and lessor.

Accounting as Lessee

As lessee, Zeppelin generally recognizes a right of use and a corresponding lease liability for each lease.

Zeppelin makes use of the exemptions for short-term leases with a term of less than twelve months and leases for low-value assets. Expenses arising from these leases are recognized as expenses on a straight-line basis over the term of the contract.

Zeppelin does not make use of the option to combine leasing and non-leasing components.

Rights to use intangible assets are accounted for in accordance with the rules for intangible assets.

Rights of use arising from leases are initially measured at cost. Cost comprises the initial carrying amount of the lease liability plus any lease payments made before or at the beginning of the lease less any incentive payments and plus any initial direct costs.

The rights of use are subsequently measured at amortized cost less cumulative scheduled depreciation and cumulative impairment losses. Depreciation is charged over the shorter of the useful life of the rights of use or the term of the lease. If ownership of the leased asset is transferred to Zeppelin (through the exercise of an option or other contractual arrangement), it is depreciated over the (remaining) useful life of the leased asset.

The initial and subsequent measurement of lease liabilities are based on the present value of the minimum lease payments outstanding at the reporting date. Interest expenses are spread over the term in such a way as to produce a constant interest rate.

Lease payments are discounted at the interest rate implicit in the lease. If this is not known or not available, the lessee's incremental borrowing rate is used.

Accounting as Lessor

With regard to accounting as lessor, a distinction is made between operating leases and finance leases.

In the case of finance leases, the material opportunities and risks arising from ownership of the leased asset are transferred to the lessee. This results in the recognition of a receivable at the amount of the present value of future lease payments to be made.

If the opportunities and risks remain with Zeppelin, an operating lease exists and the leased assets are measured at amortized cost and reported under "Rental fleet". Leased assets are depreciated in accordance with the rules for property, plant, and equipment. The lease payments are recognized in the statement of profit or loss under rental income on a straight-line basis over the remaining term of the contract.

Sale-Leaseback Transactions

The sale-leaseback transactions (hereinafter "SLB") entered into by Zeppelin for refinancing purposes include tender rights. There is no transfer of control. Assets that are the subject of such agreements remain under property, plant, and equipment. Zeppelin recognizes payment obligations arising from SLB transactions as liabilities at their present value. They are discounted at the implicit interest rate.

D DISCRETIONARY DECISIONS AND ESTIMATES

The preparation of IFRS consolidated financial statements requires that discretionary decisions and assumptions be made about future events that affect the recognition and measurement of assets and liabilities. In individual cases, the actual values may deviate from the discretionary decisions and estimates. Changes are recognized at the time they become known in accordance with the accounting and valuation methods applicable to the respective assets and liabilities. This applies in particular to the following assets and liabilities.

Zeppelin performs annual impairment tests for all cash-generating units that contain goodwill. The impairment tests are based on assumptions regarding the development of cash flows and the weighted average cost of capital (WACC) of the respective unit.

The carrying amounts of property, plant and equipment, and intangible assets are based on assumptions regarding useful lives and residual values. In the case of the rental fleet from RPO transactions without a purchase option, the residual value estimates are based on assumptions about the development of the residual values of the machines underlying the transactions.

The carrying amount of the return rights from RPO transactions with purchase options is based on assumptions about the development of the residual values of the machines underlying the transactions at the time the options are exercised and about the development of the return rate.

Contract assets and liabilities from sales recognition based on performance progress are based on assumptions about the expected total contract costs.

In determining the impairment of financial assets measured at amortized cost, assumptions are made about the expected solvency of the respective debtors.

The recognition of deferred tax assets is based in part on expectations about the development of the taxable income of the respective taxable entity.

Other provisions are based on assumptions and estimates regarding the occurrence, amount, and timing of the respective obligations. Details about the assumptions and estimates underlying the provisions are given in Note 23.

Where observable market values are not available, the fair value of assets and liabilities acquired in a business combination is measured using recognized valuation techniques, such as the residual value method. The measurement of value involves estimates by management. The result forecast on the basis of these estimates is influenced, for example, by interest rate movements, fluctuations in exchange rates, and the expected economic performance.

E Notes to the Consolidated Statement of Profit or Loss

1 Sales

Sales from contracts with customers are broken down by SBU, product, and type of sales recognition as follows:

	2021								
in kEUR	Con-struction Equip-ment CE	Con-struction Equip-ment Eurasia	Con-struction Equip-ment Nordics	Rental	Power Systems	Plant En-gineering	Holding company	Consoli-dation	Group
Sales									
Earthmoving equipment (new)	832,238	338,376	154,479	0	0	0	0	-4,834	**1,320,258**
Earthmoving equipment (used)	267,446	40,380	40,159	0	0	0	0	-1,802	**346,183**
Rental business	1,160	1,082	1,302	296,750	0	0	6,730	-32,847	**274,177**
Forklifts	23,033	295	0	46,952	0	0	0	-292	**69,988**
Power systems	0	0	0	0	213,478	0	0	-2,725	**210,753**
Agricultural equipment	0	23,390	0	0	0	0	0	0	**23,390**
Production plants	0	0	0	0	0	93,873	0	0	**93,873**
Processing plants and mixers	0	0	0	0	0	123,187	0	0	**123,187**
Systems for the food industry and liquids handling	0	0	0	0	0	58,439	0	0	**58,439**
Components and site equipment	0	0	0	67,600	0	9,463	0	-251	**76,812**
Spare parts	244,041	208,181	50,562	0	153,747	0	1,763	-33,943	**624,351**
Customer service	118,409	30,686	45,933	85,093	69,698	54,929	0	-10,398	**394,351**
Miscellaneous	7,882	0	0	79,672	0	0	0	-8,639	**78,916**
Zeppelin GmbH	0	0	0	0	0	0	47,850	-46,940	**910**
	1,494,208	**642,390**	**292,436**	**576,068**	**436,924**	**339,890**	**56,343**	**-142,671**	**3,695,587**

	2020								
in kEUR	Con-struction Equip-ment CE	Con-struction Equip-ment Eurasia	Con-struction Equip-ment Nordics	Rental	Power Systems	Plant En-gineering	Holding company	Consoli-dation	Group
Sales									
Earthmoving equipment (new)	741,469	264,922	138,808	0	0	0	0	-3,200	**1,141,998**
Earthmoving equipment (used)	255,556	19,717	37,291	0	0	0	0	-786	**311,778**
Rental business	224	1,091	1,397	278,203	0	0	4,682	-41,507	**244,091**
Forklifts	14,011	4	0	42,353	0	0	0	-295	**56,074**
Power systems	0	0	0	0	207,156	0	0	-3,012	**204,144**
Agricultural equipment	0	12,281	0	0	0	0	0	0	**12,281**
Production plants	0	0	0	0	0	115,212	0	0	**115,212**
Processing plants and mixers	0	0	0	0	0	76,387	0	0	**76,387**
Systems for the food industry and liquids handling	0	0	0	0	0	51,414	0	0	**51,414**
Components and site equipment	0	0	0	67,156	0	11,146	0	-18	**78,285**
Spare parts	231,316	170,549	39,698	0	139,656	0	784	-33,692	**548,312**
Customer service	113,133	25,686	40,971	65,554	60,675	51,981	0	-8,363	**349,636**
Miscellaneous	17,559	0	0	74,554	0	0	2,449	-13,192	**81,370**
Zeppelin GmbH	0	0	0	0	0	0	41,975	-41,206	**769**
	1,373,267	**494,250**	**258,165**	**527,821**	**407,487**	**306,140**	**49,891**	**-145,271**	**3,271,749**

A breakdown of sales by domestic and foreign entities is presented below:

in kEUR	2021	2020
Sales		
Domestic entities	1,992,892	1,863,800
Foreign entities	1,702,696	1,407,949
	3,695,587	**3,271,749**

The following table shows the value of all or part of the unfulfilled obligations arising from contractual relationships with customers as of the respective reporting date (hereinafter "order backlog")[3] and the periods during which Zeppelin expects to realize sales from this order backlog.

in kEUR	Sub-sequent year	2nd to 5th sub-sequent year	There-after	Total
12/31/2021	1,545,508	216,473	6,950	**1,768,931**
12/31/2020	781,001	170,923	4,024	**955,948**

[3] According to IFRS, the order backlog only includes order relationships with fixed consideration agreements and secure receipt of consideration.

2 Cost of Sales

The cost of sales comprises:

in kEUR	2021	2020
Cost of sales		
Cost of materials	-2,526,969	-2,240,237
Personnel expenses	-426,920	-380,094
Depreciation	-72,832	-58,890
Other expenses	-136,094	-106,989
	-3,162,816	**-2,786,210**

3 Other Income

The other income comprises:

in kEUR	2021	2020
Other income		
Handling margin from SLB/SMB transactions	2	4,211
Reimbursements	4,691	4,070
Book gains from asset disposals	2,238	1,270
Release of provisions and other liabilities	9,955	5,442
Rents and leases	205	178
Exchange rate gains	7,413	13,312
Income from derecognized receivables	1,041	418
Insurance compensation and indemnity payments	14,405	13,052
Miscellaneous	12,390	13,236
	52,340	**55,190**

Other income fell, particularly due to the lack of margins from SMB contracts and lower currency gains. The latter was due to the exchange rate movements of the Russian ruble, the Czech koruna and the US dollar. Offsetting effects were higher income from the reversal of provisions in connection with the settlement of disputes.

4 Other Expenses

Other expenses include:

in kEUR	2021	2020
Other expenses		
Losses from asset disposals	-2,493	-4,215
Exchange rate losses from foreign currency valuation	-9,050	-15,973
Expenses from the derecognition of financial instruments	-657	-1,013
Claims expenses for motor vehicles, machines, and other	-4,972	-3,656
Contributions	-704	-596
Other taxes	-3,369	-3,101
Expenses for bank and guarantee fees, financial expenses	-2,022	-1,667
Services	-460	-1,702
Miscellaneous	-7,022	-9,832
	-30,749	**-41,754**

The decrease in other expenses is due in particular to lower currency losses compared with the previous year. This was due to exchange rate movements of the Russian ruble, the Czech koruna and the Ukrainian hryvnia, partly in relation to the US dollar.

5 Personnel Expenses

Personnel expenses include:

in kEUR	2021	2020
Personnel expenses		
Wages and salaries	-566,438	-510,217
Social security contributions	-117,931	-104,654
Post-employment benefits	-7,634	-6,335
	-692,003	**-621,205**

The average number of employees during the year was:

Full-time equivalents	2021	2020
Employees		
Sales, marketing	1,766	1,723
Service (spare parts and after-sales)	4,967	4,750
Engineering, order processing, materials management, logistics	1,122	1,112
Production, assembly, quality management	770	813
Administration	1,500	1,434
Trainees and apprentices	332	338
	10,458	**10,170**

The increase in the number of employees was mainly due to good business performance.

6 Net Financial Result

The net financial result consists of the interest result and other financial result and includes the following income and expenses:

in kEUR	2021	2020
Net financial result		
Interest result		
Interest income		
from financial instruments	1,811	1,738
from discounting	2,401	2,554
	4,212	**4,292**
Interest expenses		
from financial instruments	-12,196	-12,293
from discounting	-1,658	-2,332
from lease agreements	-3,013	-3,640
from interest rate derivatives	-309	-1,259
	-17,177	**-19,523**
	-12,965	**-15,231**

in kEUR	2021	2020
Other financial result		
Other financial income		
Income from participations	3,257	745
Other income from financial instruments	7,684	8,356
	10,942	**9,101**
Other financial expenses		
Expenses from the impairment of financial assets	0	-1,339
Other expenses from financial instruments	-7,757	-10,112
	-7,757	**-11,451**
	3,184	**-2,350**
	-9,780	**-17,581**

Interest expenses from financial instruments included EUR 9,205 thousand (2020: EUR 9,057 thousand) interest expenses from bank loans.

The expenses from discounting include interest expenses from the subsequent measurement of post-employment benefits and other long-term employee benefits amounting to EUR 197 thousand (2020: EUR 1,006 thousand), from the unwinding of the discount relating to other provisions amounting to EUR 36 thousand (2020: EUR 20 thousand), and contract assets and liabilities amounting to EUR 1,425 thousand (2020: EUR 1,306 thousand).

Gains and losses from the derecognition of financial assets measured at amortized cost are of minor significance.

Further information on the net financial result is provided in section G.

7 Income Taxes

The income tax expense is composed as follows:

in kEUR	2021	2020
Income taxes		
Current income tax	-30,041	-32,091
Deferred income tax	-11,465	-1,005
	-41,506	**-33,096**

The income tax rate of 29.9% levied in Germany (previous year: 29.7%) comprises corporation tax (15.0%), trade tax (average 14.1%; previous year: 13.8%), and solidarity surcharge (5.5%).

The differences to the effective tax rate are explained as follows:

in kEUR	2021	2020
Net profit before tax	**159,505**	**124,643**
Tax rate in %	29.89	29.71
Expected income tax expense	**-47,672**	**-37,032**
Different tax rates	11,500	9,634
Effect from tax rate changes	-585	-104
Taxes for previous years	960	-605
Other non-deductible expenses and taxes, and effects from changes in permanent differences	-9,915	-8,530
Tax-free income	2,957	1,515
Change in the assessment whether deferred tax assets can be recognized	174	536
Miscellaneous effects	1,075	1,490
Actual income tax expense	**-41,506**	**-33,096**
Effective tax rate in %	26.02	26.55

The deferred tax rates shown in the following table are the result:

	12/31/2021		12/31/2020	
in kEUR	Deferred tax assets	Deferred tax liabilities	Deferred tax assets	Deferred tax liabilities
Recognition in the consolidated financial statements				
Deferred taxes before offsetting				
Cash and cash equivalents	0	0	2	5
Other financial assets and receivables (current)	5,187	11,102	6,363	11,515
Inventories	14,807	4,548	11,557	1,587
Financial assets (non-current)	1,185	5,217	398	4,776
Other financial assets and receivables (non-current)	171	13,515	138	13,032
Intangible assets	1,683	7,575	1,594	2,350
Property, plant, and equipment	8,007	163,843	4,483	154,774
Current liabilities	83,808	18,619	69,849	9,231
Current provisions	4,911	1,765	3,432	2,893
Non-current liabilities	110,120	62	115,927	62
Employee benefits	23,260	2,083	24,955	2,059
Non-current provisions	739	94	796	0
Loss carryforwards	5,428	0	5,927	0
Tax credits	1,776	0	1,644	0
	261,082	**228,423**	**247,065**	**202,284**
Value allowance	-2,792		-2,469	
Offsetting	-171,945	-171,945	-166,647	-166,647
	86,345	**56,478**	**77,950**	**35,646**

The change in deferred taxes includes differences from currency translation of EUR 661 thousand, which resulted in particular from exchange rate changes of the Russian ruble and the US dollar.

The current portion of deferred tax assets amounted to EUR 75,828 thousand (12/31/2020: EUR 69,685 thousand). The current portion of deferred tax liabilities amounted to EUR 1,883 thousand (12/31/2020: EUR 1,239 thousand). There are temporary differences on interests in subsidiaries, associates, and joint ventures amounting to EUR 8,700 thousand (12/31/2020: EUR 8,620 thousand), for which no deferred tax liabilities were recognized in the reporting periods presented. The differences would only become effective for tax purposes in the event of a sale of the participation, but no sale is intended in the foreseeable future.

No deferred tax liabilities were recognized in profit or loss from initial consolidations in the financial year (2020: EUR 0 thousand).

Deferred taxes recognized in equity with no effect on profit or loss amount to EUR 6,120 thousand (2020: EUR 7,654 thousand).

In Germany, there are corporation tax loss carryforwards of EUR 6,242 thousand (12/31/2020: EUR 5,611 thousand), and trade tax loss carryforwards of EUR 6,384 thousand (12/31/2020: EUR 6,497 thousand). Overseas, there are loss carryforwards of EUR 17,070 thousand (12/31/2020: EUR 18,642 thousand).

As Zeppelin did not expect sufficient taxable profit to be available for offsetting in future periods at each reporting date, no deferred tax assets were recognized for the following items:

	12/31/2021		12/31/2020	
in kEUR	Gross amount	Value for tax purposes	Gross amount	Value for tax purposes
Deferred tax assets				
Deductible temporary differences	0	0	2,744	713
Tax loss carryforwards	17,481	2,792	11,259	1,756
thereof income tax and local income tax	11,537	1,890	8,079	1,314
thereof trade tax	5,944	902	3,180	442
	17,481	**2,792**	**14,003**	**2,469**

The unrecognized loss carryforwards expire as follows:

			Expiry date		
in kEUR	Amount	Indefinite	Subsequent year	2nd to 5th subsequent year	after the 5th subsequent year
12/31/2021	17,481	16,751	0	0	730
12/31/2020	11,259	11,259	0	0	0

For companies that had closed the current or prior period with a loss, deferred tax assets of EUR 10,141 thousand (12/31/2020: EUR 10,932 thousand) after offsetting with deferred tax liabilities were reported. This approach is based on management's assessment that the substantiated profit forecasts for subsequent years show that the companies will generate taxable profit in future which can be used to offset deductible temporary differences.

Zeppelin assumes that, on the basis of profit planning, the existing loss carryforwards will be continuously reduced and used up in the respective planning periods. The profit forecasts are based on long-term secured contractual relationships with customers and corresponding order backlogs compared to previous years.

8 Other Notes to the Consolidated Statement of Profit or Loss

Depreciation of property, plant, and equipment, and amortization of intangible assets are included in the following items of the Group income statement:

in kEUR	2021	2020
Scheduled depreciation		
in the cost of sales	-64,338	-58,460
in the selling expenses	-10,350	-11,969
in the administrative expenses	-13,250	-12,998
in the research and development costs	-395	-282
	-88,332	**-83,709**

F Notes to the Balance Sheet

9 Cash and Cash Equivalents

A breakdown of cash and cash equivalents is shown below:

in kEUR	12/31/2021	12/31/2020
Cash and cash equivalents		
Cash in hand and bank	211,423	157,332
	211,423	**157,332**

Cash corresponds to cash and cash equivalents. The development of cash and cash equivalents is presented in the statement of cash flows.

10 Current Financial Assets

Current financial assets include[4]:

	12/31/2021		
in kEUR	FVTPL	AC	Miscellaneous
Cash and cash equivalents	**-**	**211,423**	**-**
Financial assets			
Derivatives	1	-	118
Loans	-	1,356	-
Continuing involvement	-	-	260
Other receivables	-	17,928	-
	1	**19,283**	**378**
Trade receivables	**-**	**431,653**	**-**

	12/31/2020		
in kEUR	FVTPL	AC	Miscellaneous
Cash and cash equivalents	**-**	**157,332**	**-**
Financial assets			
Derivatives	174	-	-
Loans	-	5,092	-
Continuing involvement	-	-	315
Other receivables	-	20,104	-
	174	**25,196**	**315**
Trade receivables	**-**	**380,374**	**-**

Information on financial assets to related entities is provided in section H.

The carrying amounts of current financial assets correspond to their fair values.

For derivative financial instruments, future cash flows are determined using forward curves. In particular, exchange rates and yield curves are used, which can be observed on the relevant markets and obtained via market information systems. The fair value of these instruments corresponds to the sum of the discounted cash flows. The fair values determined for derivatives therefore fall under level 2 of the fair value hierarchy (see the "Fair Value" subsection in the "Financial Instruments" section under "C Accounting Policies").

Transfers of Receivables

The continuing involvement (assets and liabilities) included in the financial statements results from joint liability risks from risk-sharing agreements with sales financing partners.

In certain transactions, receivables from customers due in the short term are transferred to a sales financing partner against payment of consideration. This is generally a leasing company. This converts the short-term receivable into a financing transaction with the customer. Under certain conditions and within the framework of risk-sharing agreements, Zeppelin undertakes to share the credit default risk from the sales financing partner's financing transaction proportionately. The volume of receivables subject to risk sharing in the fiscal year 2020 was EUR 2,067 thousand (2020: EUR 2,891 thousand). The nominal amount of receivables with risk sharing as of the reporting date was EUR 14,103 thousand (12/31/2020: EUR 15,588 thousand). The maximum risk of loss resulting from these receivables was EUR 6,413 thousand (12/31/2020: EUR 8,449 thousand). The carrying amount and fair value of the continuing involvement recognized for this purpose were each EUR 6,425 thousand (12/31/2020: EUR 8,460 thousand). At the time of derecognition, the difference between the carrying amount of the receivable and the value of the continuing involvement was recognized in the statement of profit or loss. No fees were incurred for the conclusion of the contracts.

11 Contract Assets and Liabilities

The contract assets result primarily from the project business. Contract liabilities result from the project business, services, and warranty extensions.

in kEUR	12/31/2021	12/31/2020
Contract assets		
Project business		
Gross inventory	41,897	39,242
Loss allowances	-2,754	-1,266
	39,142	**37,976**
Other contracts		
Gross inventory	1,006	1,116
Loss allowances	0	0
	1,006	**1,116**
	40,148	**39,092**
Contract liabilities		
from the project business	152,216	84,846
from service contracts	35,527	31,956
from warranty extensions	95,948	54,595
	283,690	**171,397**

Changes in the balance of contract assets and liabilities from the project business may result from advance payments, interim and final settlements, sales recognition based on performance progress, adjustments to sales, performance obligations settled in prior periods, and exchange rate effects. Changes in the fiscal year amounting to EUR -1,879 thousand (2020: EUR 783 thousand)[5] are attributable to adjustments of performance obligations met in previous periods. Zeppelin recognized sales of EUR 45,688 thousand (2020: EUR 32,427 thousand) for performance obligations included in contract liabilities from prior periods.

The balance of contract liabilities from service contracts represents the excess of service payments received from customers over the cumulative sales recognized from the rendering of services. Zeppelin recognized sales of EUR 18,590 thousand (2020: EUR 16,022 thousand)[6] for performance obligations included in contract liabilities from prior periods.

The balance of contract liabilities from extended warranties represents the excess of warranty payments received from customers over the cumulative sales recognized from the rendering of warranty services. Zeppelin recognized sales of EUR 35,992 thousand (2020: EUR 39,521 thousand)[7] for performance obligations included in contract liabilities from prior periods.

[4] Derivatives in hedge accounting and continuing involvement do not fall under any of the measurement categories of IFRS 9. They are therefore included in the "Miscellaneous" category.

[5] Adjusted previous-year figure: previously EUR 5,023 thousand

[6] Adjusted previous-year figure: previously EUR 4,099 thousand

[7] Adjusted previous-year figure: previously EUR 11,042 thousand

12 Other assets

A breakdown of other assets is shown below:

in kEUR	12/31/2021 Total	12/31/2021 thereof current	12/31/2020 Total	12/31/2020 thereof current
Other assets				
Refund claims and advance payments for other taxes	8,648	8,648	2,831	2,831
Excess of plan assets over the defined benefit pension plans	338	0	285	0
Advance payments for wages and salaries	1,716	1,716	1,214	1,214
Repurchase rights from RPO transactions	42,482	11,494	44,968	12,628
Advance payments for warranty extensions	34,805	17,656	33,288	16,507
Advance payments for purchased services	3,206	1,539	1,762	1,384
Miscellaneous other advance payments	15,940	12,414	15,796	12,799
	107,134	**53,467**	**100,145**	**47,363**

Advance payments for purchased services mainly relate to advance rent payments for short-term rents or rents for low-value assets, warranty extensions, insurance and bank charges, which are not interest expenses, advance pension payments, and maintenance services. The miscellaneous other advance payments mainly relate to excise taxes.

13 Inventories

A breakdown of the carrying amount of inventories is shown below:

in kEUR	12/31/2021	12/31/2020
Inventories		
Raw materials, consumables, and supplies	25,124	22,305
Work in progress	53,013	41,722
Finished goods and merchandise	448,682	419,332
Advance payments on inventories	68,093	49,710
	594,913	**533,068**

EUR 2,153,030 thousand of inventories were recorded as material consumption (2020: EUR 1,905,480 thousand). Zeppelin recorded impairment losses on inventories of EUR 14,551 thousand (2020: EUR 19,697 thousand) in the fiscal year and realized reversals of impairment losses on inventories of EUR 6,520 thousand (2020: EUR 7,915 thousand). Reversals of impairment losses on inventories result from disposals at prices that exceed the previously estimated net realizable value.

14 Assets held for sale

Assets held for sale are composed as follows:

in kEUR	12/31/2021	12/31/2020
Assets held for sale		
Land and buildings	3,404	0
Technical equipment and machinery	11	0
Operating and business equipment	85	0
	3,500	**0**

The above-mentioned property, plant, and equipment were reclassified from non-current assets to current assets held for sale at the end of 2021. This was due to a decision by Zeppelin CZ s.r.o. to sell the site for the underground mining business in Ostrava. Immediately before this reclassification, these assets were impaired to the lower value in use by EUR 503 thousand. A revaluation in accordance with IFRS 5 is no longer necessary in this respect, as this corresponds to the net sales proceeds. The sale is expected to take place in spring 2022.

15 Non-Current Financial Assets

The carrying amounts and fair values of non-current financial assets are[8]:

in kEUR	12/31/2021 FVTPL Carrying amount	FVTPL Market value	AC Carrying amount	AC Market value	Miscellaneous
Financial assets					
Derivatives	-	-	-	-	-
Shares in affiliates	12,885	12,885	-	-	-
Participations	6	6	-	-	-
Loans	-	-	482	482	-
Continuing involvement	-	-	-	-	6,153
Other receivables	-	-	6,848	6,848	-
	12,891	**12,891**	**7,330**	**7,330**	**6,153**
Trade receivables	**-**	**-**	**9,785**	**9,785**	**-**

in kEUR	12/31/2020 FVTPL Carrying amount	FVTPL Market value	AC Carrying amount	AC Market value	Miscellaneous
Financial assets					
Derivatives	-	-	-	-	218
Shares in affiliates	14,645	14,645	-	-	-
Participations	6	6	-	-	-
Loans	-	-	502	502	-
Continuing involvement	-	-	-	-	8,134
Other receivables	-	-	6,570	6,570	-
	14,651	**14,651**	**7,072**	**7,072**	**8,352**
Trade receivables	**-**	**-**	**8,455**	**8,455**	**-**

Information on financial assets to related parties is provided in section H.

Information on determining the fair values of derivatives is provided in section C.

[8] Derivatives in hedge accounting and continuing involvement do not fall under any of the measurement categories of IFRS 9. They are therefore included in the "Miscellaneous" category.

The changes in shares in affiliates and participations are shown below:

in kEUR	Shares in affiliates	Participations
Carrying amounts as of		
01/01/2020	**17,501**	**679**
Additions	849	0
Disposals	-1,580	0
Changes in the consolidation group	-1,925	0
Change in fair value	-872	0
Transfers	672	-673
12/31/2020	**14,645**	**6**
Additions	517	0
Changes in the consolidation group	-2,277	0
12/31/2021	**12,885**	**6**

The carrying amount of the shares in affiliates relates firstly to shares in subsidiaries that were not included in the consolidation group for reasons of materiality (see subsection "Subsidiaries" in the section "Consolidation Group" under "B Basis of Preparation"). Secondly, the carrying amount includes shares in the parent company of Zeppelin GmbH, Luftschiffbau Zeppelin GmbH, Friedrichshafen, of EUR 11,276 thousand. The shares correspond to 10.0% of the subscribed capital of EUR 35,000 thousand. The shares do not confer any dividend subscription rights and have restrictions on their resale.

The carrying amount of the participations relates to shares held by Zeppelin GmbH in Wirtschaftsförderung Bodenseekreis GmbH. The participation in Energyst B.V. was already written down in full in previous years.

The information on the fair values of the shares in affiliates and participations corresponds to the total of the discounted cash flows. Discounting is carried out using the weighted average cost of capital. The valuation method falls under level 3 of the fair value hierarchy (see subsection "Fair Value" in the section "Financial Instruments" under "C Accounting Policies").

Changes in fair value are recognized in profit or loss in the financial result.

The weighted average cost of capital (WACC) and the growth rate of the terminal value (TV) are used as significant unobservable inputs in determining the fair value. A change in the two inputs would have the following effects on the fair value and the consolidated net profit after tax:

in kEUR	12/31/2021	12/31/2020
WACC		
+1.0%	-4,032	-3,157
-1.0%	5,846	4,745
Growth rate TV		
+1.0%	4,946	3,791
-1.0%	-3,421	-2,525

The information on the fair values of the loans corresponds to the present value of the cash inflows. They are discounted using credit risk-adjusted interest rates. The valuation method falls under level 2 of the fair value hierarchy (see subsection "Fair Value" in the section "Financial Instruments" under "C Accounting Policies").

For derivative financial instruments, future cash flows are determined using forward curves. In particular, exchange rates and yield curves are used, which can be observed on the relevant markets and obtained via market information systems. The fair value of these instruments corresponds to the sum of the discounted cash flows. The fair values determined for derivatives therefore fall under level 2 of the fair value hierarchy (see the "Fair Value" subsection in the "Financial Instruments" section under "C Accounting Policies").

16 Investments Accounted for Using the Equity Method

The carrying amount of investments accounted for using the equity method are attributable to associates and joint ventures as follows:

in kEUR	12/31/2021	12/31/2020
Investments accounted for using the equity method		
Associates	19,501	17,848
	19,501	**17,848**

The carrying amount of associates includes CZ Loko a.s.

Summarized financial information about CZ Loko a.s. is presented in the following table:

in kEUR	12/31/2021	12/31/2020
Share of equity capital		
Net assets		
Current assets	70,680	78,870
Non-current assets	27,781	28,573
Current liabilities	-50,203	-62,516
Non-current liabilities	-7,137	-8,229
	41,121	**36,698**
Share in %	49.0	49.0
Other adjustments	-648	-134
	19,501	**17,848**

in kEUR	2021	2020
Share in net profit or loss after tax		
Sales	111,325	106,922
Net profit	3,690	3,268
Share in %	49.0	49.0
	1,808	**1,601**
Share of other comprehensive income		
Other comprehensive income	1,008	-462
Share in %	49.0	49.0
	494	**-226**
Dividends received	**649**	**547**

17 Intangible Assets

The changes in intangible assets are shown below:

in kEUR	Goodwill	Customer base	Software	Concessions, industrial property rights, technology	Internally generated intangible assets	Payments in advance	Total
Costs							
01/01/2020	**95,553**	**40,776**	**82,279**	**10,443**	**3,218**	**3,550**	**235,819**
Additions	0	600	3,933	125	405	5,216	11,712
Disposals	0	-88	-3,946	-146	-4	-84	-4,269
Changes in the consolidation group	1,695	0	34	0	0	0	1,729
Net exchange differences	-377	537	-718	-152	0	-37	-2,180
Transfers	0	0	1,008	0	0	-1,008	0
Reclassifications	0	0	0	0	0	0	0
12/31/2020	**96,871**	**41,824**	**82,590**	**10,270**	**3,618**	**7,637**	**242,811**
Additions	0	0	3,298	57	0	6,391	9,746
Disposals	0	0	-359	-398	0	-80	-837
Changes in the consolidation group	930	837	30	10	0	0	1,807
Net exchange differences	580	-211	842	109	0	32	1,352
Transfers	0	0	3,241	34	0	-3,275	0
Reclassifications	0	0	0	0	0	0	0
12/31/2021	**98,381**	**42,450**	**89,643**	**10,082**	**3,619**	**10,704**	**254,878**

Accumulative amortization and impairment losses							
01/01/2020	**-61,617**	**-1,527**	**-48,865**	**-6,776**	**-1,106**	**0**	**-119,890**
Amortization	0	-4,592	-9,756	-1,056	0	0	-15,404
Impairments	0	0	-200	0	-787	0	-987
Reversals of impairments	0	0	0	0	0	0	0
Disposals	0	0	3,161	146	4	0	3,310
Changes in the consolidation group	0	0	-15	0	0	0	-15
Net exchange differences	564	73	322	-3	0	0	956
Transfers	0	0	0	0	0	0	0
Reclassifications	0	0	0	0	0	0	0
12/31/2020	**-61,052**	**-6,046**	**-55,352**	**-7,689**	**-1,889**	**0**	**-132,029**
Amortization	0	-4,734	-11,096	-266	0	0	-16,095
Impairments	0	0	-675	0	0	-694	-1,369
Reversals of impairments	0	0	0	0	0	0	0
Disposals	0	0	321	397	0	0	719
Changes in the consolidation group	-156	0	-24	0	0	0	-181
Net exchange differences	-575	-24	-690	-82	0	0	-1,372
Transfers	0	0	33	-33	0	0	0
Reclassifications	0	0	0	0	0	0	0
12/31/2021	**-61,784**	**-10,805**	**-67,483**	**-7,673**	**-1,889**	**-694**	**-150,327**

The asset class "Software" includes the ERP system from the group-wide ERP project. The carrying amount as of December 31, 2021 was EUR 12,080 thousand (12/31/2020: 16,366).

As of December 31, 2021, there were contractual obligations to acquire intangible assets amounting to EUR 193 thousand (12/31/2020: EUR 5,910 thousand).

The allocation of the carrying amount of goodwill to the CGU groups is presented below:

in kEUR	12/31/2021	12/31/2020
Goodwill		
Construction Equipment CE	10,487	9,635
Construction Equipment Nordics	7,428	7,587
Rental	16,366	16,366
Plant Engineering	2,316	2,230
	36,597	**35,819**

Zeppelin generally determines the recoverable amount of a CGU group as its fair value less costs to sell. The DCF method is applied. The cash flows used for the calculation are derived from the mid-term plan approved by management for the next three years on an after-tax basis. The expected cash flows after this period are extrapolated using growth rates. The growth rate reflects management's expectations of future growth derived from the past. The cost of capital rates after taxes are used to determine the present value. The cost of capital rates take into account Zeppelin's industry-specific risk. The determined fair value falls under level 3 of the fair value hierarchy (see subsection "Fair Value" in the section "Financial Instruments" under "C Accounting Policies"). The growth rates and cost of capital rates used are shown in the table below:

	12/31/2021	
	Growth rate	Cost of capital
Goodwill		
Construction Equipment CE	1.00%	7.22%
Construction Equipment Nordics	1.60%	7.22%
Rental	1.00%	5.04%
Plant Engineering	1.00%	7.22%

	12/31/2020	
	Growth rate	Cost of capital
Goodwill		
Construction Equipment CE	1.00%	6.80%
Construction Equipment Nordics	1.60%	6.80%
Rental	1.00%	4.80%
Plant Engineering	1.00%	6.80%

18 Property, Plant, and Equipment

Changes in property, plant, and equipment are presented below:

in kEUR	Land and buildings	Technical equipment and machinery	Operating and business equipment	Rental fleet (RPO)	Rental fleet (other)	Advance payments and assets under con-struction	Total
Costs							
01/01/2020	**548,027**	**84,822**	**240,311**	**355,568**	**817,760**	**20,871**	**2,067,359**
Additions	52,059	4,669	27,768	118,912	146,818	5,542	355,768
Disposals	-12,261	-1,058	-18,975	-99,762	-89,728	-591	-222,375
Changes in the consolidation group	439	0	285	0	0	0	725
Net exchange differences	-6,419	-3,195	-8,192	18	-4,727	-2,217	-24,732
Transfers	27,205	-3,804	-12,193	0	6,253	-16,087	1,373
Reclassifications	-191	-12	-89	0	-1,579	-11	-1,882
12/31/2020	**608,859**	**81,422**	**228,915**	**374,736**	**874,797**	**7,507**	**2,176,236**
Additions	28,754	4,738	32,867	115,431	173,571	15,017	370,378
Disposals	-6,692	-2,037	-17,751	-103,868	-81,033	-202	-211,584
Changes in the consolidation group	1,331	106	594	0	5,603	96	7,729
Net exchange differences	4,580	1,498	3,378	304	2,359	369	12,488
Transfers	2,933	-355	3,728	0	-2,022	-4,284	0
Reclassifications	-4,705	72	-2,304	172	-112	-3	-6,880
12/31/2021	**635,059**	**85,442**	**249,427**	**386,776**	**973,162**	**18,500**	**2,348,367**

in kEUR	Land and buildings	Technical equipment and machinery	Operating and business equipment	Rental fleet (RPO)	Rental fleet (other)	Advance payments and assets under con-struction	Total
Accumulative depreciation and impairment losses							
01/01/2020	**-212,517**	**-50,136**	**-135,798**	**-73,764**	**-312,596**	**0**	**-784,812**
Depreciation	-29,275	-6,230	-32,800	-49,827	-106,654	0	-224,786
Impairments	-99	0	-297	0	-91	0	-487
Reversals of impairments	28	1	8	0	85	0	123
Disposals	7,542	1,154	17,394	37,512	49,715	0	113,317
Changes in the consolidation group	-154	0	-119	0	0	0	-273
Net exchange differences	2,134	2,161	5,222	37	1,748	0	11,302
Transfers	-125	-115	572	-314	-1,722	0	-1,704
Reclassifications	198	12	-10	0	631	0	831
12/31/2020	**-232,266**	**-53,154**	**-145,829**	**-86,356**	**-368,883**	**0**	**-886,489**
Depreciation	-32,569	-6,386	-33,282	-51,987	-110,151	0	-234,375
Impairments	-2,213	0	0	0	0	-5,400	-7,613
Reversals of impairments	88	0	113	0	89	0	290
Disposals	4,610	1,694	16,518	43,918	46,452	0	113,191
Changes in the consolidation group	-20	-67	-406	0	-36	0	-529
Net exchange differences	-1,702	-976	-2,389	-108	-1,103	0	-6,277
Transfers	170	662	-913	0	81	0	0
Reclassifications	1,315	-22	2,121	-172	-45	0	3,197
12/31/2021	**-262,589**	**-58,248**	**-164,068**	**-94,705**	**-433,596**	**-5,400**	**-1,018,606**

The asset classes shown in the statement of changes in non-current assets include rights of use for leased assets. Further details are provided in Note 26.

In view of the military escalation between Russia and Ukraine, an impairment loss of EUR 7 million was recognized on the buildings and assets under construction at the branch in Kiev, Ukraine.

In fiscal year 2021, Zeppelin received compensation of EUR 14,114 thousand for damaged property, plant, and equipment (2020: EUR 13,458 thousand).

As of December 31, 2021, there were contract obligations for Zeppelin to acquire property, plant, and equipment amounting to EUR 129,039 thousand (12/31/2020: EUR 101,308 thousand).

19 Current Financial Liabilities

Current financial liabilities include[9]:

in kEUR	12/31/2021 FVTPL	AC	Miscella-neous
Financial liabilities			
Borrowings	-	3,844	-
Bonded loans	-	6,053	-
Derivatives	872	-	-
Lease liabilities	-	-	103,097
Continuing involvement	-	-	261
	872	**9,896**	**103,357**
Trade payables	**-**	**150,309**	**-**
Other financial liabilities	**-**	**121,068**	**-**

in kEUR	12/31/2020 FVTPL	AC	Miscella-neous
Financial liabilities			
Borrowings	-	9,413	-
Bonded loans	-	13,922	-
Derivatives	777	-	-
Lease liabilities	-	-	80,893
Continuing involvement	-	-	315
	777	**23,336**	**81,207**
Trade payables	**-**	**130,941**	**-**
Other financial liabilities	**-**	**119,370**	**-**

Other financial liabilities mainly included liabilities from repurchase obligations (RPO transactions) of EUR 69,862 thousand (2020: EUR 73,675 thousand).

Information on financial liabilities to related entities is provided in section H.

Current financial liabilities have a maturity of less than one year. Therefore, their carrying amounts at the reporting date correspond to their fair values. The fair values fall under level 2 of the fair value hierarchy (see subsection "Fair Value" in the section "Financial Instruments" under C "Accounting Policies").

For derivative financial instruments, future cash flows are determined using forward curves. Exchange rates and yield curves are used, which can be observed on the relevant markets and obtained via market information systems. The fair value of these instruments corresponds to the sum of the discounted cash flows. As such, the fair values determined for derivatives fall under level 2 of the fair value hierarchy (see subsection "Fair Value" in the section "Financial Instruments" under "C Accounting Policies").

[9] Derivatives in hedge accounting and continuing involvement do not fall under any of the measurement categories of IFRS 9. They are included in the "Miscellaneous" category.

20 OTHER LIABILITIES

Other liabilities include:

in kEUR	12/31/2021		12/31/2020	
	Total	thereof current	Total	thereof current
Other liabilities				
Other tax liabilities	47,938	47,938	46,401	46,401
Deferred sales from RPO transactions	130,645	52,880	129,057	54,737
Liabilities for wages and salaries	1,876	1,606	1,454	1,351
Advance payments for services to be rendered	5,272	5,272	7,478	7,475
Other advance payments	20,996	20,906	14,560	14,080
	206,727	**128,602**	**198,951**	**124,044**

Advance payments for services to be rendered mainly relate to marketing support and rent. The other advance payments mainly relate to obligations to employees and other benefits.

21 NON-CURRENT FINANCIAL LIABILITIES

The carrying amounts and fair values of non-current financial liabilities are[10]:

in kEUR	12/31/2021				
	FVTPL		AC		Miscellaneous
	Carrying amount	Market value	Carrying amount	Market value	
Financial liabilities					
Borrowings	-	-	66,136	72,773	-
Bonded loans	-	-	244,747	254,601	-
Derivatives	6,180	6,180	-	-	-
Lease liabilities	-	-	-	-	207,464
Continuing involvement	-	-	-	-	6,165
	6,180	**6,180**	**310,884**	**327,374**	**213,628**
Trade payables	**-**	**-**	**-**	**-**	**-**
Other financial liabilities	**-**	**-**	**168,451**	**168,390**	**-**

[10] Derivatives in hedge accounting and continuing involvement do not fall under any of the measurement categories of IFRS 9. They are included in the "Miscellaneous" category.

in kEUR	12/31/2020				
	FVTPL		AC		Miscellaneous
	Carrying amount	Market value	Carrying amount	Market value	
Financial liabilities					
Borrowings	-	-	111,098	111,117	-
Bonded loans	-	-	229,823	248,962	-
Derivatives	3,877	3,877	-	-	6,038
Lease liabilities	-	-	-	-	250,725
Continuing involvement	-	-	-	-	8,145
	3,877	**3,877**	**340,921**	**360,080**	**264,908**
Trade payables	**-**	**-**	**-**	**-**	**-**
Other financial liabilities	**-**	**-**	**164,637**	**164,526**	**-**

Other financial liabilities mainly included liabilities from repurchase obligations (RPO transactions) of EUR 165,280 thousand (2020: EUR 161,456 thousand).

Information on financial liabilities to related entities is provided in section H.

With the exception of the disclosures on the fair value of the continuing involvement, the fair values of the financial liabilities correspond to the present value of the cash outflows. They are discounted using credit risk-adjusted interest rates. The valuation method falls under level 2 of the fair value hierarchy (see subsection "Fair Value" in the section "Financial Instruments" under "C Accounting Policies").

For derivative financial instruments, future cash flows are determined using forward curves. In particular, exchange rates and yield curves are used, which can be observed on the relevant markets and obtained via market information systems. As such, the fair values determined for derivatives fall under level 2 of the fair value hierarchy (see subsection "Fair Value" in the section "Financial Instruments" under "C Accounting Policies").

22 EMPLOYEE BENEFITS

Employee benefits include:

in kEUR	12/31/2021 Total	12/31/2021 thereof current	12/31/2020 Total	12/31/2020 thereof current
Employee benefits				
Short-term employee benefits				
Vacation and overtime	25,395	25,395	23,436	23,436
Variable salary components and bonuses	54,172	54,172	49,175	49,175
Commissions	6,884	6,884	5,587	5,587
Social contributions	7,861	7,861	7,470	7,470
Miscellaneous	4,815	4,815	3,796	3,796
	99,126	**99,126**	**89,464**	**89,464**
Net liability from defined benefit pension plans	**167,968**	**7,345**	**179,497**	**7,577**
Other long-term employee benefits				
Jubilee bonuses	4,385	644	2,877	496
Partial retirement	4,423	988	4,028	1,362
Miscellaneous	221	0	170	0
	9,029	**1,632**	**7,075**	**1,857**
Post-employment benefits	**2,080**	**1,620**	**5,800**	**5,458**
	278,203	**109,723**	**281,835**	**104,356**

Provisions for Defined Benefit Pension Plans

Zeppelin provides participating employees with post-employment pension and similar benefits in the form of defined contribution and defined benefit plans under which benefits are payable in the form of payments on and after retirement, disability, and death.

Defined contribution plans mainly relate to the statutory pension insurance of the Federal Republic of Germany and company pension benefits with contributions paid to direct insurance companies by way of employer financing and deferred compensation.

Expenses for defined contribution plans amounted to EUR 7,305 thousand (2020: EUR 5,653 thousand).

The largest defined benefit commitment is the pension plan of Zeppelin Metallwerke GmbH (now Zeppelin GmbH), which was closed in 1995 and largely transferred to Zeppelin Baumaschinen GmbH and Zeppelin Systems GmbH in the course of restructuring. The amount of the respective claims depends on the length of service and the pensionable income before January 1, 1996. Current pensions are adjusted annually at 1.0%. In addition, there are further defined benefit commitments for smaller pension plans and individual commitments to managing directors and selected executives. The commitments provide for a lifelong pension, a partial disability or survivors' pension, or corresponding contributions and various capital options.

Furthermore, larger defined benefit pension obligations were taken over from the acquisition in Sweden in fiscal year 2019. The benefits under the pension plan are graduated according to different percentages depending on salary intervals.

As of the reporting date, for a total of 3,383 employees (12/31/2020: 3,470) there were obligations from defined benefit commitments, of which 1,010 are due to active employees (12/31/2020: 1,090), 715 to former employees with vested pension rights (12/31/2020: 719) and 1,658 to pensioners and surviving dependants (12/31/2020: 1,661).

Zeppelin has invested plan assets to meet and finance its defined benefit commitments, which are measured at fair value and offset against provisions for pensions. Plan assets include reinsurance policies and funds paid into pension trusts (CTAs) as plan assets. The plan assets are earmarked, secured against insolvency, and pledged.

A breakdown of the net liability and changes thereto are presented below:

in kEUR	12/31/2021	12/31/2020
Net liability		
Provisions for pensions	181,230	191,653
thereof covered	18,465	18,758
thereof not covered	162,765	172,896
Fair value of plan assets	-13,374	-12,217
	167,856	**179,437**

The fair value of plan assets includes EUR 113 thousand (2020: EUR 60 thousand) surplus of assets from a direct commitment (payment into a CTA).

in kEUR	Provisions for pensions	Plan assets	Net liability
01/01/2020	**183,094**	**10,128**	**172,966**
Service cost	2,761	0	2,761
Interest result	1,438	143	1,295
Benefits paid by company / plan	-8,402	-497	-7,905
Actuarial gains (-) and losses (+) thereof	11,945	86	11,859
from the change in demographic assumptions	17	0	17
from the change in financial assumptions	9,196	0	9,196
due to experience adjustments	2,731	0	2,731
Employee contributions	173	190	-17
Employer contributions	-236	824	-1,060
Net exchange differences	1,067	21	1,045
Miscellaneous	-187	1,320	-1,507
12/31/2020	**191,653**	**12,217**	**179,437**

in kEUR	Provisions for pensions	Plan assets	Net liability
01/01/2021	**191,653**	**12,217**	**179,437**
Service cost	2,766	0	2,766
Interest result	892	90	801
Benefits paid by company / plan	-8,883	-331	-8,552
Actuarial gains (-) and losses (+) thereof	-4,749	-291	-4,458
from the change in demographic assumptions	-456	0	-456
from the change in financial assumptions	-6,001	0	-6,001
due to experience adjustments	1,707	0	1,707
Employee contributions	181	181	0
Employer contributions	-261	858	-1,119
Net exchange differences	-780	280	-1,060
Miscellaneous	412	371	41
12/31/2021	**181,230**	**13,374**	**167,856**

For the following fiscal year Zeppelin expects payments for employer contributions to plan assets of EUR 749 thousand (12/31/2020: EUR 1,105 thousand), and pension payments of EUR 252 thousand (12/31/2020: EUR 264 thousand).

The valuation of provisions for pensions is based on actuarial assumptions. The assumptions weighted across the entire Group according to their relative share of the total obligation are presented below:

	12/31/2021	12/31/2020
Weighted actuarial interest rate	0.83%	0.49%
Weighted future wage and salary increases	2.34%	2.26%
Weighted future pension increase	1.28%	2.26%

The calculation basis for life expectancy is the 2018 G mortality tables by Klaus Heubeck.

The average duration of provisions for pensions is between 3.0 and 38.1 years (12/31/2020: 3.0 to 26.3 years).

Zeppelin is exposed to actuarial risks from the measurement of provisions for pensions. The carrying amount of provisions is particularly sensitive to fluctuations in discount rates and life expectancy. The following sensitivity analysis provides a quantitative assessment of the extent of the actuarial risks.

in kEUR	12/31/2021	12/31/2020
Discount rate		
+0.25%	175,064	185,170
-0.25%	186,827	198,402
Life expectancy		
+1 year	190,056	200,878
-1 year	171,498	182,233

A breakdown of the plan assets is presented below:

in kEUR	12/31/2021			12/31/2020		
	Listed	Unlisted	Total	Listed	Unlisted	Total
Plan assets						
Cash	0	38	**38**	0	77	**77**
Equity instruments	2,166	0	**2,166**	1,714	0	**1,714**
Debt instruments	2,647	0	**2,647**	2,445	0	**2,445**
Real estate	0	1,218	**1,218**	0	1,022	**1,022**
Investment funds	77	0	**77**	61	0	**61**
ABS program	0	0	**0**	0	0	**0**
Insurance policies	0	6,889	**6,889**	0	6,662	**6,662**
Miscellaneous	340	0	**340**	236	0	**236**
	5,230	8,145	**13,374**	4,456	7,761	**12,217**

23 OTHER PROVISIONS

A breakdown of other provisions is presented below:

in kEUR	Warranties	Onerous contracts	Commis-sions	Loyalty bonuses and other price reductions	Legal fees	Miscella-neous	Total
01/01/2020	**17,755**	**3,638**	**1,768**	**4,811**	**2,748**	**14,637**	**45,357**
Addition	11,678	923	394	2,744	408	8,185	24,333
Utilization	-9,840	-1,496	-677	-3,229	-266	-5,856	-21,364
Reversals	-2,085	-163	-34	-303	-311	-750	-3,646
Discounting	-42	-2	0	0	0	0	-44
Unwinding of the discount	4	3	0	0	0	269	276
Interest rate change	0	0	0	0	0	0	0
Changes in the consolidation group	0	0	0	0	0	19	19
Net exchange differences	-593	-46	26	0	-451	-223	-1,287
12/31/2020	**16,876**	**2,857**	**1,477**	**4,023**	**2,128**	**16,281**	**43,643**

in kEUR	Warranties	Onerous contracts	Commis-sions	Loyalty bonuses and other price reductions	Legal fees	Miscella-neous	Total
12/31/2020	**16,876**	**2,857**	**1,477**	**4,023**	**2,128**	**16,281**	**43,643**
Addition	14,315	4,560	1,895	3,482	883	8,440	33,576
Utilization	-9,081	-1,611	-603	-2,290	-140	-3,488	-17,213
Reversals	-2,322	-562	-124	-204	-652	-3,921	-7,785
Discounting	-7	0	0	0	0	-118	-126
Unwinding of the discount	0	0	0	0	0	3	3
Interest rate change	0	0	0	0	0	0	0
Changes in the consolidation group	32	0	0	0	0	46	78
Net exchange differences	425	30	-15	0	34	194	667
12/31/2021	**20,238**	**5,275**	**2,630**	**5,012**	**2,252**	**17,438**	**52,845**

A summary of other provisions by maturity is presented in the following table:

in kEUR	12/31/2021		12/31/2020	
	Total	thereof current	Total	thereof current
Other provisions				
Warranties	20,238	17,379	16,876	13,931
Onerous contracts	5,275	5,077	2,857	2,609
Commissions	2,630	2,630	1,477	1,477
Loyalty bonuses and other price reductions	5,012	5,012	4,023	4,023
Legal fees	2,252	2,252	2,128	2,128
Miscellaneous	17,438	14,874	16,281	11,700
	52,845	**47,225**	**43,643**	**35,869**

Warranty provisions are recognized for warranty obligations. The valuation takes into account the expected value of the warranty costs attributable to the sales made. Warranty provisions are reversed upon expiry of the respective warranty period. The number of warranty claims, the warranty costs, and the timing of warranty claims are subject to estimation.

Provisions for onerous contracts are recognized for pending sales transactions if the unavoidable costs exceed the expected economic benefits from the settlement of these transactions. Expected costs and sales are estimated. A large part of the provisions relates to orders for which sales are realized according to degree of completion. They are recognized as soon as the expected total costs from the fulfillment of the contract exceed the contract value. In addition, a provision of EUR 3 million was recognized for the Russian orders of the SBU Plant Engineering that are currently being processed, which fully corresponds to the margin realized for these orders in 2021.

Provisions for commissions relate to expected obligations to pay commissions to third parties for the brokerage of business. The amount of the brokerage commission is estimated.

Provisions for loyalty bonuses and other price reductions are recognized for the achievement of certain targets (e.g. sales targets) within a defined period. Estimates are required in terms of attaining the targets and the amount of the resulting discounts.

Provisions for legal fees are recognized for expected litigation expenses. Estimates relate to the amount of court costs such as court fees and expenses, as well as non-court costs, for example for lawyers. It is also necessary to estimate the extent of Zeppelin's contribution to the costs of the proceedings and the time at which it will be able to benefit from the pending proceedings.

24 Equity

The share capital of EUR 100,000 thousand (12/31/2020: EUR 100,000 thousand) is divided into two shares. These are issued and fully paid in. The following table illustrates the carrying amount per share and the associated voting rights.

in kEUR	12/31/2021	12/31/2020
Luftschiffbau Zeppelin GmbH		
Carrying amount of share capital	96,250	96,250
Voting rights in %	96.25	96.25
Zeppelin Foundation		
Carrying amount of share capital	3,750	3,750
Voting rights in %	3.75	3.75

Zeppelin distributed a dividend of EUR 15,711 thousand in fiscal year 2021 (2020: EUR 16,103 thousand). The dividend is paid to the shareholders of Zeppelin GmbH in proportion to their shares.

The capital reserve of EUR 60,000 thousand results from shareholder contributions. It serves to permanently strengthen the equity of Zeppelin GmbH.

A breakdown of retained earnings is presented below:

in kEUR	12/31/2021	12/31/2020
Retained earnings		
Shares in Luftschiffbau Zeppelin GmbH	11,276	11,276
First-time adoption of IFRS	15,962	15,952
Foreign currency translation differences	-37,417	-37,417
Other retained earnings	868,625	769,738
	858,445	**759,549**

The reserve for the first-time application of IFRS includes the equity differences resulting from the conversion from HGB to IFRS. The reserve for currency translation includes the cumulative currency translation differences up to the date of conversion to IFRS. Other retained earnings obtain the accumulated earnings of the companies included in the consolidated financial statements.

The Management Board proposes to distribute a dividend of 18%, i.e. EUR 20,640 thousand, for fiscal year 2021 from the consolidated net profit attributable to the shareholders of Zeppelin GmbH (EUR 114,667 thousand) and to carry forward the remaining net profit of EUR 541,680 thousand to new account.

The value of deferred taxes reported in accumulated other comprehensive income is EUR 6,120 thousand (12/31/2020: EUR 7,654 thousand).

	12/31/2021		
in kEUR	Before income taxes	Income taxes	After income taxes
Actuarial gains (-) and losses (+) from pension plans	-21,971	6,079	-15,892
Hedge relationships	-450	41	-409

	12/31/2020		
in kEUR	Before income taxes	Income taxes	After income taxes
Actuarial gains (-) and losses (+) from pension plans	-26,720	7,275	-19,445
Hedge relationships	-1,721	380	-1,341

In the fiscal year, EUR 225 thousand (2020: EUR -1,016 thousand) was reclassified from accumulated other comprehensive income for hedge accounting to the statement of profit or loss. The related deferred taxes were EUR 67 thousand (2020: EUR 301 thousand).

25 Capital Management

As part of its capital management, Zeppelin's objective is to maintain or increase the company's ability to continue as a going concern and the benefits for the shareholders of Zeppelin GmbH through financial stability. In order to achieve these objectives, measures are taken to control the capital structure by management. The control methods have not changed compared to the previous year.

Zeppelin's credit agreements include financial covenants relating in part to equity and debt. Zeppelin has complied with all financial covenant agreements.

Zeppelin monitors the capital on the basis of the debt ratio, the equity ratio, and the return on capital according to IFRS. The control ratios are aimed at the management of balance sheet equity.

A breakdown of the ratios is presented below:

	12/31/2021	12/31/2020
Debt ratio[11]	0.41	0.81
Equity ratio	33.8 %	32.1 %
Return on capital	**8.0 %**	**6.5 %**
Earnings before interest and income tax	172,469	139,874
Capital employed	2,163,345	2,144,420

The capital employed consists of fixed assets and working capital. The basis for calculating the ratios has not changed compared to the previous year.

26 Leasing

Lessee

Zeppelin's lease agreements mainly relate to real estate, motor vehicles (hereinafter "vehicles"), office and business equipment, as well as technical equipment and machinery.

The term of the lease agreements for real estate is between 11 and 684 months (12/31/2020: between 9 and 699 months). Extension and termination options were agreed under these leases. Zeppelin uses these options to ensure the best possible flexibility with regard to the continuation or abandonment of sales locations and rental stores. The measurement of lease liabilities reflects current estimates of the expected exercise or non-exercise of these options. Zeppelin is partially obliged to restore the properties to their original condition upon termination of a lease agreement. Provisions for restoration obligations are recognized for this purpose in accordance with IFRIC 1 in conjunction with IAS 37.

The term of the lease agreements for vehicles is between 5 and 89 months (12/31/2020: between 6 and 89 months). There are no purchase or extension options or termination options. Compensation payments are made for excess mileage if the maximum mileage on which the contract is based is exceeded. Vehicle lease agreements are often concluded with a time lead corresponding to the manufacturers' delivery times.

The term of the lease agreements for office and business equipment is between 1 and 84 months (12/31/2020: between 1 and 85 months). There are usually no purchase or extension options or termination options.

The term of the lease agreements for technical equipment and machinery is between 32 and 61 months (12/31/2020: between 19 and 74 months). There are usually no purchase or extension options or termination options.

The following table summarizes cash flows, expenses, and income resulting from leases:

in kEUR	2021	2020
Interest expenses from lease liabilities	-3,013	-3,640
Expenses from short-term lease agreements	-15,336	-16,353
Expenses from lease agreements for low-value assets	-7,644	-5,563
Expenses from variable lease payments other than lease payments	-2,224	-1,892
Income from subleases	610	545
Cash outflow from leasing	-82,783	-58,931
thereof from lease liabilities	-59,579	-36,662
thereof from short-term leasing and low-value assets	-23,204	-22,270

The total of fixed lease payments for contracts whose term had not yet commenced as of the reporting date amounted to EUR 7,167 thousand (12/31/2020: EUR 3,797 thousand). These are expected lease payments from vehicle leases which Zeppelin has entered into but whose term does not begin until delivery of the vehicles after the reporting date.

[11] The debt ratio is equal to the financial debt divided by the earnings before interest, taxes, depreciation, and amortization.

Changes to the carrying amounts of the rights of use are presented below:

in kEUR	Land and buildings	Technical equipment and machinery	Operating and business equipment	Rental fleet (other)
Costs				
01/01/2020	**129,409**	**4,619**	**50,958**	**826**
Additions	45,781	1,106	9,649	0
Disposals	-9,975	-490	-5,813	-1,951
Changes in the consolidation group	439	0	88	0
Net exchange differences	-1,080	-65	-980	647
Transfers	12,983	757	-14,658	16,361
Reclassifications	-191	-12	-89	0
12/31/2020	**177,366**	**5,916**	**39,154**	**15,882**
Additions	24,877	1,556	10,863	1,556
Disposals	-5,818	-699	-6,503	-3,194
Changes in the consolidation group	34	0	0	0
Net exchange differences	723	138	181	-285
Transfers	46	-59	-892	0
Reclassifications	-56	0	-1	0
12/31/2021	**197,172**	**6,853**	**42,802**	**13,959**
Accumulative depreciation and impairment losses				
01/01/2020	**-41,782**	**-1,492**	**-14,752**	**-376**
Depreciation	-18,139	-1,357	-9,697	-2,592
Impairments	0	0	22	0
Reversals of impairments	-53	0	0	0
Disposals	5,693	458	5,512	0
Changes in the consolidation group	-154	0	-25	0
Net exchange differences	457	29	270	-105
Transfers	334	-315	1,391	0
Reclassifications	198	12	-12	0
12/31/2020	**-53,445**	**-2,664**	**-17,290**	**-3,073**
Depreciation	-21,178	-1,359	-10,289	-2,151
Impairments	0	0	0	0
Reversals of impairments	64	0	44	0
Disposals	3,956	610	6,260	998
Changes in the consolidation group	-2	0	0	0
Net exchange differences	-253	-79	-60	58
Transfers	0	0	521	0
Reclassifications	-43	0	0	0
12/31/2021	**-70,902**	**-3,492**	**-20,814**	**-4,167**

Information on the maturities of the lease liability is provided in Note 28 "Liquidity Risk".

Zeppelin uses SLB transactions to finance certain parts of the rental fleet.

Lessor

Zeppelin rents out construction machines as well as a wide range of construction equipment, modular room systems, construction site and traffic guidance systems, work platforms, forklifts and lifts, and vehicles. The vast majority of rental business is accounted for in accordance with the rules for operating leases. In addition, rental income includes income from deferred sales from RPO transactions, which are accounted for as rentals.

Income from operating leases was:

in kEUR	2021	2020
Income from leases	451,484	412,387
thereof variable	1,982	0

In subsequent financial years, Zeppelin expects fixed payments from operating leases of:

in kEUR	12/31/2021	12/31/2020
Proceeds from operating leases		
in subsequent year	75,141	78,149
thereof SBU Rental order backlog	60,325	62,353
in 2nd subsequent year	7,048	7,841
in 3rd subsequent year	3,785	5,090
in 4th subsequent year	1,704	2,468
in 5th subsequent year	837	1,025
Thereafter	498	161
	89,012	**94,734**

Changes to the carrying amount of assets leased under operating leases are presented below:

Costs		
01/01/2020	**355,568**	**817,760**
Additions	118,912	146,818
Disposals	-99,762	-89,728
Changes in the consolidation group	0	0
Net exchange differences	18	-4,727
Transfers	0	6,253
Reclassifications	0	-1,579
12/31/2020	**374,736**	**874,797**
Additions	115,431	173,571
Disposals	-103,868	-81,033
Changes in the consolidation group	0	5,603
Net exchange differences	304	2,359
Transfers	0	-2,022
Reclassifications	172	-112
12/31/2021	**386,776**	**973,162**
Accumulative depreciation and impairment losses		
01/01/2020	**-73,764**	**-312,596**
Depreciation	-49,827	-106,654
Impairments	0	-91
Reversals of impairments	0	85
Disposals	37,512	49,715
Changes in the consolidation group	0	0
Net exchange differences	37	1,748
Transfers	-314	-1,722
Reclassifications	0	631
12/31/2020	**-86,356**	**-368,883**
Depreciation	-51,987	-110,151
Impairments	0	0
Reversals of impairments	0	89
Disposals	43,918	46,452
Changes in the consolidation group	0	-36
Net exchange differences	-108	-1,103
Transfers	0	81
Reclassifications	-172	-45
12/31/2021	**-94,705**	**-433,596**

G Financial Instruments

27 Other Disclosures on Financial Instruments

Classification

The following table summarizes the carrying amounts of the financial instruments included in the consolidated financial statements by measurement category:

in kEUR	12/31/2021	12/31/2020
Financial assets		
AC	679,475	578,429
FVTPL	12,892	14,825
	692,367	**593,254**
Financial liabilities		
AC	760,608	779,205
FVTPL	7,052	4,654
	767,660	**783,859**

Zeppelin has not made any reclassifications between these categories.

The excess of financial liabilities over financial assets mainly results from the accounting for leases and for SLB transactions. The assets recognized for these transactions (rights of use and rental fleet) are not financial instruments but property, plant, and equipment and are therefore not included in the above comparison.

Offsetting

Zeppelin does not hold any cash collateral and does not set off any balance sheet items. Derivative financial instruments, credit balances, and liabilities to banks are recognized gross in the consolidated statement of financial position.

In the case of derivative financial instruments and account balances with banks, all derivatives existing between the counterparties concerned as well as credit balances and liabilities could be offset in the event of insolvency. At present, Zeppelin has no legal right to set off, nor does Zeppelin intend to settle on a net basis.

Carrying amounts and offsetting potentials are presented in the summary below:

in kEUR	12/31/2021	12/31/2020
Derivatives		
Derivatives with positive fair value	119	392
Offsetting potential	-119	-227
	0	**165**
Derivatives with negative fair value	7,052	10,692
Offsetting potential	-119	-227
	6,933	**10,465**
	6,933	**10,300**
Cash at bank		
Cash at bank	211,423	157,332
Offsetting potential	-13,690	-64,953
	197,733	**92,379**
Borrowings		
Borrowings	69,980	120,511
Offsetting potential	-13,690	-64,953
	56,290	**55,558**

Collateral Provided and Received

Zeppelin has not pledged any financial assets as collateral for financial liabilities and does not itself hold any significant collateral for financial assets.

Net Results

The following table summarizes the net results from financial instruments by measurement category. They include net income and expenses from interest, revaluation, net exchange differences, loss allowances, and disposal effects.

in kEUR	2021	2020
Financial assets		
AC	-702	-3,817
FVTPL	3,394	1,383
	2,691	**-2,434**
Financial liabilities		
AC	-11,014	-17,352
FVTPL	-2,413	-570
	-13,427	**-17,921**

The net results in the AC measurement category include expenses from the application of the effective interest method of EUR -12,119 thousand (2020: EUR -12,101 thousand).

Hedge Accounting

In accordance with Group policies, Zeppelin uses derivative financial instruments only with a reference to hedged item within the framework of currency and interest rate risk management to hedge cash flows from interest and exchange rate fluctuations and to hedge the fair value against interest-related fluctuations (see section "Principles of Financial Risk Management" under Note 28 "Management of Financial Risks").

However, not every hedging relationship is accounted for as such. The following summary presents the carrying amounts of the derivatives portfolio by hedges reported in the balance sheet and not reported in the balance sheet:

in kEUR	12/31/2021	12/31/2020
Derivatives		
Cash flow hedging		
Derivatives for interest rate hedging	-6,180	-9,916
thereof in hedge relationships reported in the balance sheet	0	-6,038
thereof in hedge relationships whose accounting had to be discontinued	-6,180	-3,877
Derivatives for currency hedging	-870	-603
thereof in hedge relationships not reported in the balance sheet	-870	-603
	-7,051	**-10,518**
Fair value hedging		
Derivatives for interest rate hedging	118	218
thereof in hedge relationships reported in the balance sheet	118	218
	118	**218**
	-6,933	**-10,300**
thereof positive fair values	119	392
thereof negative fair values	7,052	10,692

Hedge Accounting for Currency Hedges

Zeppelin uses forward exchange contracts and currency swaps to manage currency risks. Zeppelin also uses the foreign currency component of medium and non-current financial liabilities from SLB transactions to hedge currency risks arising from the EUR/PLN currency pair (see subsection "Currency Risk" in the section "Market Risks" under Note 27 "Management of Financial Risks").

For practical reasons, the hedge accounting rules for these hedges are only applied from a certain period-related threshold. Hedge accounting is applied by Zeppelin for the currency hedging relationship of highly probable, firmly contracted cash inflows in the EUR/PLN foreign currency relationship.

Intercompany loans (EUR/RUB) are hedged by concluding currency swaps in the corresponding currency with matching amounts and maturities. It is therefore expected that the offsetting changes in value of the underlying and hedging transactions will be almost completely offset in the future for each hedged risk.

Since fiscal year 2018, Zeppelin hedged highly probable, firmly contracted cash inflows in foreign currency from operating activities for the EUR/PLN currency pair with maturities matching those of the foreign currency component of financial liabilities from medium- and long-term SLB transactions in the corresponding currency. It is expected that the offsetting changes in value of the underlying and hedging transactions will be almost completely offset in the future the currency risk.

The table below presents a summary of the key terms of the financial liabilities from medium- and long-term SLB transactions used to hedge highly probable cash inflows from operating activities denominated in foreign currencies:

in kEUR	Carrying amount	Remaining balance of liability	Term
12/31/2021			
	12,319	12,948	3 to 6 years
12/31/2020			
	13,435	14,122	3 to 6 years

The nominal amount of these transactions is due as follows:

in kEUR	Subsequent year	2nd to 5th subsequent year	Thereafter	Total
12/31/2021				
	3,790	9,158	0	**12,948**
12/31/2020				
	4,133	9,989	0	**14,122**

A breakdown of the carrying amounts of these transactions (reported under non-current and current financial liabilities) and the related amounts recognized in accumulated other comprehensive income is presented below:

in kEUR	Carrying amount	Accumulated change in value	Accumulated other comprehensive income
12/31/2021			
	12,319	338	-502
12/31/2020			
	13,564	-822	-841

The hedged items are off-balance-sheet, firmly contracted, and highly probable cash inflows from operating activities. The expected inflows of cash and cash equivalents and their accumulated change in value are as follows:

in kEUR	Expected cash flows	Accumulated change in value
12/31/2021		
	12,948	-338
12/31/2020		
	14,122	822

Changes to the amount recognized in accumulated other comprehensive income for currency risk hedges are as follows:

in kEUR	Carrying amount
01/01/2020	**-19**
Change in fair value	-1.056
Recycling due to realization of the hedged item	234
Recycling for losses that are no longer expected	0
12/31/2020	**-841**
Change in fair value	44
Recycling due to realization of the hedged item	295
Recycling for losses that are no longer expected	0
12/31/2021	**-502**

Non-offsetting, ineffective portions of the hedging relationships generally result from the one-sided consideration of the specific credit risk of each party in the hedging transactions. In 2021, as in the previous year, there was no ineffectiveness in FX hedges.

Hedge Accounting for Interest Rate Hedges

Zeppelin uses interest rate swaps to manage interest rate risks (see subsection "Interest Rate Risk" in the section "Market Risk" under Note 27 "Management of Financial Risks").

Volumes and maturities are aligned with the structure of the cash flows of the financial liabilities and with the desired degree of hedging. To the extent that the parameters of the hedged item and the hedging instrument relevant to valuation match, the changes in value of the hedged item and the hedging instrument caused by interest rate fluctuations are systematically offset.

Hedging relationships are reported in the balance sheet as cash flow hedges or fair value hedges. The hedged items are bonded loans and drawdowns under the syndicated credit facility.

Cash Flow Hedges

Interest rate swaps used to hedge cash flows from hedged items with variable interest rates no longer existed as of the reporting date due to the termination of the hedging relationship due to lack of effectiveness. The following table presents a summary of the main terms of the interest rate swaps used in the previous year:

in kEUR	Carrying amount	Nominal	Zeppelin pays		Zeppelin receives	
			from	to	from	to
12/31/2020						
Negative fair values						
	6,038	60,000	1.65 %	1.71 %	3M Euribor	3M Euribor

In the previous year, reference amounts of EUR 60,000 thousand were due for these transactions in the second to fifth subsequent year.

The carrying amounts of the derivatives had a negative fair value of EUR 6,038 thousand in the previous year and were reported as non-current financial liabilities. The related amounts recognized in accumulated other comprehensive income were EUR -930 thousand and EUR 72 thousand for current and terminated cash flow hedges, respectively. The cumulative change in value was EUR -929 thousand.

With the termination of the interest rate cash flow hedges in spring 2021, an amount of EUR 306 thousand was reclassified from other comprehensive income to the statement of profit or loss. From this point on, the changes in fair value of the interest rate swaps that are no longer designated are recognized wholly in profit or loss. In 2021, this resulted in a positive effect of EUR 1.6 million.

Changes to the amount recognized in accumulated other comprehensive income for interest rate hedges are as follows:

in kEUR	Carrying amount
01/01/2020	**-1,004**
Change in fair value	1,396
Recycling due to realization of the hedged item	-1,250
12/31/2020	**-858**
Change in fair value	977
Recycling due to realization of the hedged item	-376
Recycling for discontinued hedging relationships	306
12/31/2021	**49**

Fair Value Hedges

The following table presents a summary of the main terms of the hedging instruments used to hedge fluctuations in the fair value of bonded loans:

in kEUR	Carrying amount	Nominal	Zeppelin pays from	Zeppelin pays to	Zeppelin receives from	Zeppelin receives to
12/31/2021						
Positive fair values						
	118	4,500	3M Euribor + 2.055%	3M Euribor + 2.055%	3.75 %	3.75 %

in kEUR	Carrying amount	Nominal	Zeppelin pays from	Zeppelin pays to	Zeppelin receives from	Zeppelin receives to
12/31/2020						
Positive fair values						
	218	4,500	3M Euribor + 2.055%	3M Euribor + 2.055%	3.75 %	3.75 %

The maturity structure of these transactions is summarized in the table below according to reference amounts:

in kEUR	Subsequent year	2nd to 5th subsequent year	Thereafter	Total
12/31/2021				
	4,500	0	0	**4,500**
12/31/2020				
	0	4,500	0	**4,500**

The carrying amounts of derivatives in fair value hedges (reported under non-current and current financial assets and non-current and current financial liabilities) are as follows:

in kEUR	Carrying amount Assets	Carrying amount Liabilities	Accumulated change in value
12/31/2021			
	118	0	-349

in kEUR	Carrying amount Assets	Carrying amount Liabilities	Accumulated change in value
12/31/2020			
	218	0	-365

The carrying amounts of the hedged items (reported under non-current financial liabilities) are as follows:

in kEUR	Carrying amount	Accumulated base adjustment	Accumulated change in value
12/31/2021			
Bonded loans	4,568	11	349
12/31/2020			
Bonded loans	4,591	36	365

As part of the fair value hedge, income and expenses from the subsequent measurement of derivatives amounting to EUR -101 thousand (2020: EUR -74 thousand) were recognized. Adjustments of EUR -101 thousand (2020: EUR -74 thousand) and amortization of carrying amount adjustments of EUR 76 thousand (2020: EUR 76 thousand) were recognized in the carrying amount of the loans. The changes in the value of the hedged item and the hedging instrument caused by changes in the market interest rate level are systematically balanced out so that the parameters of the hedged item and the hedging instrument relevant to valuation match.

Non-offsetting, ineffective portions of the hedging relationship generally result from the one-sided consideration of the specific credit risk of each party in the hedging instrument. For reasons of materiality, Zeppelin does not recognize this ineffectiveness.

28 Management of Financial Risks

Principles of Financial Risk Management

The principles and responsibilities for the management and controlling of risks arising from financial instruments are defined by the Group Management Board in accordance with the legal provisions and set out in Group guidelines.

The Group is exposed to various financial risks arising from the Group's business and financing activities. Financial risks are divided into liquidity, default, and market risks (currency and interest rate risks).

The Group Management Board and the Group Supervisory Board receive regular reports on the Group's financial risks. Compliance with the Group guidelines is checked by the internal audit department and selectively by the Group auditor.

The methods and assumptions used in financial risk management have not changed since the previous reporting period.

Liquidity Risk

The liquidity risk is managed on the basis of business planning, which ensures that the funds required to finance the operating business and current and future investments in all Group companies are available promptly and in the required currency at reasonable cost. Liquidity risk management includes determining, with the aid of a liquidity plan, liquidity requirements from operating activities, investing activities, and other financial measures.

A rolling 12-month liquidity forecast and medium-term financial plan show the Group's liquidity requirements, which are fully covered at all times by a long-term syndicated credit facility of sufficient size, bonded loans, and concluded and available SLB capacities.

The following summary presents the expected cash outflows from financial liabilities at the respective reporting dates:

in kEUR	In subsequent year		In 2nd to 5th subsequent year		Thereafter	
	Interest	Repay-ment	Interest	Repay-ment	Interest	Repay-ment
12/31/2021						
Financial liabilities						
Borrowings	330	6,672	6,637	66,136	0	0
Bonded loans	2,626	4,500	8,634	135,000	4,134	110,000
Derivatives	2,546	28,116	3,504	0	0	0
thereof currency forwards	0	28,116	0	0	0	0
thereof interest rate derivatives	2,546	0	3,504	0	0	0
Lease liabilities	0	103,169	0	198,560	0	11,753
	5,502	**142,457**	**18,775**	**399,696**	**4,134**	**121,753**
Trade payables	**116**	**150,205**	**0**	**0**	**0**	**0**
Other financial liabilities	**60**	**120,949**	**157**	**169,000**	**1**	**232**

in kEUR	In subsequent year		In 2nd to 5th subsequent year		Thereafter	
	Interest	Repay-ment	Interest	Repay-ment	Interest	Repay-ment
12/31/2020						
Financial liabilities						
Borrowings	357	9,390	5,647	111,898	0	0
Bonded loans	2,671	12,500	8,759	150,000	2,485	80,000
Derivatives	2,560	64,179	7,253	0	0	0
thereof currency forwards	0	64,179	0	0	0	0
thereof interest rate derivatives	2,560	0	7,253	0	0	0
Lease liabilities	0	81,204	0	226,762	0	39,962
	5,588	**167,273**	**21,659**	**488,660**	**2,485**	**119,962**
Trade payables	**105**	**132,118**	**0**	**0**	**0**	**0**
Other financial liabilities	**113**	**119,414**	**231**	**165,575**	**2**	**84**

In the reporting period, Zeppelin made all interest and principal repayments on time and in full and also met all capital requirements contained in credit and loan agreements. There are no concentrations of risk. Contingent liabilities are not expected to result in material actual liabilities and thus significant cash outflows for which no provisions have been recognized.

Default Risk

Credit Risk Management

To manage credit risk, Zeppelin has established a creditworthiness management system tailored to market conditions and customers. Before an order is accepted, a credit assessment is carried out on the basis of the creditworthiness data available on the customer. The Construction Equipment CE, Power Systems, and Rental SBUs use a market data portal for this purpose. Credit risk classes and credit limits are determined on the basis of the results of the credit assessment. If credit limits are exceeded, transactions are only settled against advance payment or the deposit of additional collateral such as bank guarantees. A significant proportion of new and used machines and engines are sold with the involvement of sales financing partners. At our own risk, purchase price deferrals or long-term financing purchase agreements are only granted in exceptional cases after intensive credit checks. Zeppelin harmonizes Group-wide credit management for customers who have business relationships with multiple SBUs by assigning Group credit limits, escalation

processes, and monthly reporting on the utilization of Group limits.

The Construction Equipment Nordics SBU uses the credit assessment of external service providers, who regularly prepare credit assessments on new and existing customers. Credit risk classes and credit limits are determined on the basis of the results of the credit assessment. If credit limits are exceeded, transactions are only settled against advance payment or the deposit of additional collateral such as bank guarantees. If credit limits are exceeded, the customer can no longer purchase products or services, although in individual cases transactions can be approved by authorized persons. The decision then made is either extended credit or an advance payment. However, the majority of new and used machines are sold on a pre-delivery payment basis. If sales financing partners are used for the sale of machines, they bear the risk of bad debts.

The markets of the Plant Engineering SBU are highly diversified. In order to reduce the risk of bad debt losses, the Group concludes agreements regarding down payments and interim payments, collaterals, and credit and trade credit insurance. In order to protect itself against economic and political risks, the Group takes advantage of German government-backed trade export credit guarantees.

The availability of market data on the creditworthiness of customers is very limited in the markets in which the Construction Equipment Eurasia SBU operates. Therefore, transactions are generally only carried out against advance payment or bank guarantees. Credit limits and payment terms are only granted if, in exceptional cases, the creditworthiness of a customer can be assessed with sufficient reliability. Credit limits and payment terms are subject to strict monitoring.

Zeppelin only invests its cash and cash equivalents in banks with the highest creditworthiness and probabilities of default close to zero. If creditworthiness deteriorates significantly, Zeppelin withdraws all cash and cash equivalents promptly or reduces them to a level that is acceptable from a risk perspective.

Default Risk

Zeppelin distinguishes between recoverable non-performing and irrecoverable financial assets. Zeppelin divides credit risk into creditworthiness levels using different concepts tailored to market conditions and customers.

A financial asset is classified as non-performing ("definition of default") if there are significant reasons to believe that a debtor is unlikely to meet its payment obligations to Zeppelin.

A financial asset is deemed irrecoverable if, for example, Zeppelin is unable to collect the amount receivable definitively as a result of the conclusion of insolvency proceedings.

All financial assets that are neither non-performing nor irrecoverable are collectible.

The following table summarizes the credit quality and the maximum default risk represented by the gross value according to the aforementioned categories:

in kEUR		Credit quality	Loss allowance	Gross value	Loss allowance	Carrying amount
12/31/2021						
Financial assets						
Loans		recoverable	Lifetime ECL	1,550	0	1,550
		non-performing	Lifetime ECL	4,093	-3,806	287
Other receivables		recoverable	Lifetime ECL	24,729	0	24,729
		non-performing	Lifetime ECL	266	-219	47
				30,639	**-4,025**	**26,614**
Trade receivables		**Lifetime ECL – simplified approach**		**470,228**	**-28,790**	**441,438**
Contract assets		**Lifetime ECL – simplified approach**		**42,902**	**-2,754**	**40,148**
Cash and cash equivalents						
Cash and cash equivalents		recoverable	12-month ECL	211,423	0	211,423
		non-performing	Lifetime ECL	810	-810	0
				212,233	**-810**	**211,423**

in kEUR		Credit quality	Loss allowance	Gross value	Loss allowance	Carrying amount
12/31/2020						
Financial assets						
Loans		recoverable	Lifetime ECL	5,306	0	5,306
		non-performing	Lifetime ECL	4,093	-3,806	287
Other receivables		recoverable	Lifetime ECL	26,337		26,337
		non-performing	Lifetime ECL	722	-385	337
				36,459	**-4,191**	**32,268**
Trade receivables		**Lifetime ECL – simplified approach**		**417,232**	**-28,403**	**388,829**
Contract assets		**Lifetime ECL – simplified approach**		**40,358**	**-1,266**	**39,092**
Cash and cash equivalents						
Cash and cash equivalents		recoverable	12-month ECL	157,332	0	157,332
		non-performing	Lifetime ECL	810	-810	0
				158,142	**-810**	**157,332**

In the case of financial instruments measured at fair value through profit or loss, the carrying amount reflects the maximum default risk.

in kEUR	12/31/2021	12/31/2020
Financial assets		
Derivatives	119	392
Shares in affiliates	12,885	14,645
Participations	6	6
Securities	0	0
	13,010	**15,043**

Loss Allowances

Loss allowances are recognized by Zeppelin taking into account past events and expectations regarding the future development of credit risk (see the "Impairment Losses" subsection in the "Financial Instruments" section under "C Accounting Policies"). The methods used to measure the loss allowance have not changed compared with the previous year.

Loans mainly relate to associates and affiliated companies not included in the consolidation group.

The change in the loss allowance on other receivables is attributable to the change in the gross balance.

Loss allowances on trade receivables and contract assets are consistently measured using a simplified approach that only takes into account expected credit losses to maturity.

The following risk profile is derived for trade receivables in relation to the maturity structure:

in kEUR	Total	Not due	Days until overdue						Non-performing
			< 30	31 - 60	61 - 90	91 - 180	181 - 360	> 360	
12/31/2021									
Trade receivables									
Gross	470,228	298,483	121,133	16,468	4,924	5,866	5,779	12,707	4,868
Loss allowance	-28,790								
	441,438								

in kEUR	Total	Not due	Days until overdue						Non-performing
			< 30	31 - 60	61 - 90	91 - 180	181 - 360	> 360	
12/31/2020									
Trade receivables									
Gross	417,232	256,142	114,909	13,566	5,827	5,510	4,377	11,447	5,455
Loss allowance	-28,403								
	388,829								

Changes to the balance of loss allowances on trade receivables and loss allowances on other receivables are presented below:

in kEUR	Credit-worthi-ness not impaired	Credit-worthi-ness impaired	Total
01/01/2020	**-10,730**	**-16,229**	**-26,959**
Transfer	1	-1	0
Revaluation	-1,886	-8,218	**-10,103**
Derecognition	1,159	1,739	**2,898**
Reversal	1,308	2,724	**4,032**
Change in gross value	0	0	**0**
Change in creditworthiness parameters	11	-288	**-276**
Changes in the consolidation group	0	-28	**-28**
Net exchange differences	550	1,099	**1,649**
12/31/2020	**-9,589**	**-19,200**	**-28,789**
Transfer	-34	34	0
Revaluation	-1,201	-6,061	**-7,261**
Derecognition	1,151	3,631	**4,782**
Reversal	804	2,578	**3,382**
Change in gross value	0	0	**0**
Change in creditworthiness parameters	-9	0	**-9**
Changes in the consolidation group	0	0	**0**
Net exchange differences	-356	-758	**-1,113**
12/31/2021	**-9,233**	**-19,776**	**-29,009**

The reconciliation includes loss allowances for other receivables of EUR 219 thousand (2020: EUR 385 thousand). In addition, non-performing receivables of EUR 4,868 thousand (2020: EUR 5,455 thousand) are included in the "Creditworthiness impaired" category.

The changes in the balance of loss allowances on contract assets are due to two projects of Zeppelin Systems China for which the company has already provided services.

Market Risks

Zeppelin is exposed to market risks from exchange rate and interest rate fluctuations. Zeppelin uses derivative financial instruments (forward exchange contracts, currency and interest rate swaps) to manage the impact of market risks on its operating results. These hedges are entered into under appropriate consideration of the risk management requirements applicable to banks and are subject to strict monitoring. Zeppelin's risk positions are hedged taking account of certain risk limits. In individual cases, Zeppelin also uses primary financial instruments to hedge currency risks.

Currency Risk

Zeppelin's global operations expose it to currency risks arising from fluctuating exchange rates. Zeppelin uses the value-at-risk approach to measure currency risks.

The objective of currency risk management is to hedge cash flows and fair values against exchange rate fluctuations.

The Group's exposure to foreign exchange risk consists primarily of EUR/USD, EUR/RUB, EUR/CZK, EUR/GBP, EUR/PLN, EUR/DKK, EUR/SEK, USD/UAH, and USD/RUB.

Currency risks from the USD/UAH and USD/RUB currency pairs are largely eliminated by minimizing the difference between income and expenses in the respective foreign currency (hereinafter "natural hedges"). Zeppelin also limits currency risks by concluding forward exchange contracts and currency swaps. Zeppelin also uses the foreign currency component of medium and long-term financial liabilities from SLB transactions in EUR to hedge currency risks arising from the EUR/PLN currency pair. Due to these hedges, the natural hedges, and offsetting effects between the different currency pairs within the Group, Zeppelin is not exposed to any significant currency risks in a normal market environment.

The main non-derivative financial instruments (cash and cash equivalents, trade and other receivables, loans, bonded loans, trade payables, and other liabilities) are nominated in their functional currency. Due in particular to the generally short-term maturity of these instruments, possible changes in exchange rates have only a very minor impact on consolidated net profit after tax and consolidated total comprehensive income.

The following sensitivity analysis illustrates the extent of the currency risk. It shows the effects of hypothetical exchange rate changes on consolidated net profit after tax and the consolidated total comprehensive income. The effects are determined by applying hypothetical changes in the exchange rate to the measurement of the derivative and non-derivative financial instruments as of the reporting date. In the case of derivative financial instruments accounted for as hedging instruments in cash flow hedges, changes in other comprehensive income for hedge accounting are also taken into account. It is assumed that the portfolio at the reporting date is representative for the year as a whole.

On the basis of Zeppelin's currency hedging strategy, the currency pairs EUR/CZK and EUR/RUB only have sensitivities resulting from the interest rate difference. These are not disclosed below due to lack of materiality. Currency risks from the USD/RUB and USD/UAH currency pairs are largely eliminated by natural hedges. Effects from loans in EUR to the Zeppelin companies in Sweden, Denmark, and Russia are not included in the sensitivity analysis, as these loans are fully secured. The sensitivity analysis therefore focuses on the presentation of the currency risk from the EUR/USD and EUR/PLN currency pairs.

If the exchange rates of the above currency pairs had been 10.0% higher or lower as of the reporting date, this would

have had the following effects on consolidated net profit after tax and the consolidated total comprehensive income:

in kEUR				2021 Net profit for the year	2021 Total compre-hensive income	2020 Net profit for the year	2020 Total compre-hensive income
Derivatives							
	EUR	USD	+10.0%	734	0	-237	0
			-10.0%	-807	0	312	0
Original financial instruments							
	EUR	USD	+10.0%	-230	0	-311	0
			-10.0%	281	0	380	0
Balance							
	EUR	**USD**	**+10.0%**	**504**	**0**	**-548**	**0**
			-10.0%	**-526**	**0**	**692**	**0**

in kEUR				2021 Net profit for the year	2021 Total compre-hensive income	2020 Net profit for the year	2020 Total compre-hensive income
Derivatives							
	EUR	PLN	+10.0%	0	0	0	0
			-10.0%	0	0	0	0
Original financial instruments							
	EUR	PLN	+10.0%	-57	-787	7	-867
			-10.0%	69	962	-8	1,060
Balance							
	EUR	**PLN**	**+10.0%**	**-57**	**-787**	**7**	**-867**
			-10.0%	**69**	**962**	**-8**	**1,060**

Interest Rate Risk

Financial instruments sensitive to interest rates are subject to an interest rate risk. This exists either in the form of a market value risk or a cash flow risk. The market value risk is determined according to the sensitivity of the book value of a financial instrument depending on the market interest rate level. The cash flow risk describes the extent to which future interest payments will change as a result of changes in interest rates.

Financial liabilities sensitive to interest rates consist primarily of variable-interest liabilities to banks and other variable-interest financial liabilities in EUR.

The objective of interest rate risk management is to hedge the interest rate risk for a specific period and a defined proportion of the Group's financial liabilities against a significant increase in capital market interest rates. Zeppelin uses interest rate swaps for this purpose.

The following sensitivity analysis illustrates the extent of the interest rate risk. It shows the effects of a hypothetical parallel shift in the yield curve for the euro area on consolidated net profit after tax and the consolidated total comprehensive income. The analysis takes account of the effects of a change in interest rates on the interest result from derivative and non-derivative financial instruments and on the reporting date value of derivative financial instruments. In the case of derivatives accounted for as hedging instruments in cash flow hedges, changes in other comprehensive income for hedge accounting are also taken into account. It is assumed that the portfolio at the reporting date is representative for the year as a whole.

A parallel shift of +50 or -25 basis points in the yield curve for the euro area would have had the following effects on consolidated net profit after tax and the consolidated total comprehensive income:

in kEUR	2021 Net profit for the year	2021 Total comprehensive income	2020 Net profit for the year	2020 Total comprehensive income
+50 BP	1,118	0	489	948
-25 BP	-568	0	-250	-485

H Notes to Transactions with Related Parties

Zeppelin's related parties include joint ventures, associates, and participations, Luftschiffbau Zeppelin GmbH and its subsidiaries, and the Zeppelin Foundation.

In addition, ZF Friedrichshafen AG, which is controlled by the Zeppelin Foundation, and all of its affiliated companies are also related entities.

Transactions with related parties as well as receivables and liabilities existing at the reporting date result from ordinary business activities and are broken down as follows:

in kEUR	Affiliates 2021	Affiliates 2020	Associates 2021	Associates 2020	Participations 2021	Participations 2020
Deliveries and services rendered						
Sale of goods	8	90	8,678	9,904	0	25
Other services	12	1	25	95	120	0
	20	**91**	**8,703**	**9,999**	**120**	**25**
Deliveries and services received						
Sale of goods	1,383	1,348	0	0	150	0
Other services	37	62	3	0	118	0
	1,420	**1,411**	**3**	**0**	**268**	**0**
Dividends received	**2,680**	**745**	**0**	**0**	**0**	**0**

in kEUR	LZ GmbH 2021	LZ GmbH 2020	ZF Group 2021	ZF Group 2020
Deliveries and services rendered				
Sale of goods	3	0	520	180
Other services	92	92	101	134
	95	**92**	**621**	**315**
Deliveries and services received				
Sale of goods	19	11	40	29
Other services	1,855	1,465	65	0
	1,875	**1,476**	**105**	**29**
Dividends received	**0**	**0**	**0**	**0**

in kEUR	Affiliates 12/31/2021	Affiliates 12/31/2020	Associates 12/31/2021	Associates 12/31/2020	Participations 12/31/2021	Participations 12/31/2020
Receivables	8	85	0	0	84	0
Liabilities	643	386	0	0	6	0

in kEUR	LZ GmbH 12/31/2021	LZ GmbH 12/31/2020	ZF Group 12/31/2021	ZF Group 12/31/2020
Receivables	6	6	527	134
Liabilities	3	7	0	0

Transactions with related parties were conducted on terms and conditions that do not differ from those applicable to transactions with independent business partners.

The current remuneration of the active members of the Management Board is EUR 4,392 thousand (2020: EUR 4,347 thousand), of which EUR 3,769 thousand (2020: EUR 3,836 thousand) relates to short-term employee benefits and EUR 622 thousand (2020: EUR 511 thousand) to post-employment benefits. The pension provisions of the members of the Management Board are EUR 9,674 thousand (12/31/2020: EUR 10,169 thousand). The management remuneration consists of a fixed salary, an individual target agreement, and a performance-related component, whereby the amount of the variable remuneration components is limited and these were recognized as liabilities as of the end of the year in the amount of EUR 2,285 thousand (2020: EUR 2,493 thousand).

The remuneration of the Supervisory Board for fiscal year 2021 is EUR 528 thousand (2020: EUR 511 thousand) and comprised a fixed bonus, expense allowances, and attendance fees. As of the end of the year, obligations to the Supervisory Board amounting to EUR 491 thousand (2020: EUR 478 thousand) were recognized as liabilities.

Pension payments amounting to EUR 622 thousand (2020: EUR 616 thousand) were made to former members of the Management Board. The provision for pension payments to former members of the Management Board is EUR 12,452 thousand (12/31/2020: 13,667).

In addition, Group companies have not conducted any reportable transactions with members of the Management Board or Supervisory Board of Zeppelin GmbH or other members of management in key positions or with companies in whose management or supervisory bodies these persons are represented. This also applies to close family members of this group of persons.

I Other Notes

29 Notes to the Statement of Cash Flows

Changes to the carrying amounts of the financial liabilities included in the statement of cash flows are presented below:

in kEUR	Borrowings	Bonded loans	Lease liabilities
01/01/2020	**194,598**	**243,649**	**316,934**
Cash flow from financing activities	-56,286	0	-36,662
Changes in the consolidation group	94	0	400
Net exchange differences	-18,240	0	-1,475
Changes in fair value	0	2	0
Other changes	345	95	52,419
12/31/2020	**120,511**	**243,746**	**331,617**

in kEUR	Borrowings	Bonded loans	Lease liabilities
12/31/2020	**120,511**	**243,746**	**331,617**
Cash flow from financing activities	-55,892	7,000	-59,579
Changes in the consolidation group	82	0	67
Net exchange differences	4,420	0	755
Changes in fair value	0	-36	0
Other changes	858	90	37,700
12/31/2021	**69,980**	**250,800**	**310,560**

In addition to the cash flow from financing activities totaling EUR 108,471 thousand (2020: EUR 92,947 thousand), interest of EUR 11,568 thousand (2020: EUR 13,112 thousand) was paid.

The cash flow from investing activities does not include any additions to rights of use, as the addition is offset by the recognition of a lease liability at the same amount. Information on rights of use and lease liabilities can be found under Note 26. Furthermore, the financial statements do not include any non-cash transactions.

30 Events After the Reporting Date

The military escalation between Russia and Ukraine and the US and EU sanctions already known or expected against Russia will have a massive impact on Zeppelin's business in both countries and, in the worst case, could mean the abandonment of business segments and the loss of assets in Russia and Ukraine. Zeppelin's net asset positions in these countries, including Belarus, are in the low three-digit million range and must be regarded as of risk.

Zeppelin Systems GmbH acquired a 60% majority participation in Magdalena KITZMANN GmbH, Lengerich (Steinfurt district near Münster), with effect from January 1, 2022. The purpose of the acquisition is to improve market share in the area of bulk handling for performance materials. Magdalena KITZMANN GmbH operates in the market as a specialist for tailor-made and process-reliable complete systems and, with roughly 100 employees, complements Zeppelin's portfolio for PVC and chemical applications.

No other significant events occurred after the end of financial year 2021 whose effects would have had a material or endangering impact on the Group's position.

31 Auditor's fees

The auditor of Zeppelin GmbH is PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft (hereinafter "PwC"). The fees amounted to EUR 582 thousand in fiscal year 2021 (2020: EUR 572 thousand) and are broken down as follows:

in kEUR	2021	2020
Auditor's fees		
Auditing services	544	494
Other services	38	78
	582	**572**

The auditing services item includes fees for auditing the annual financial statements and the consolidated financial statements of Zeppelin GmbH, for auditing the annual financial statements of the German subsidiaries included in the consolidated financial statements, and for reviewing the reporting packages of certain foreign subsidiaries. The auditing fee for the Zeppelin Group amounts to a total of EUR 1,318 thousand (2020: EUR 1,134 thousand). Other audit firms from PwC's network were involved in the audit.

The other services item comprises the fees for Zeppelin GmbH and the Group's German subsidiaries that are included in the consolidated financial statements. This includes EUR 30 thousand for certification services and EUR 8 thousand for other services. Tax consulting services were not used this year.

In addition to PwC, other audit firms were active in an advisory capacity within the Group.

32 Disclosure

Zeppelin GmbH prepares consolidated financial statements, which must be submitted to the Federal Gazette.

Zeppelin Baumaschinen GmbH, Garching near München, Zeppelin Systems GmbH, Friedrichshafen, Zeppelin Power Systems GmbH, Hamburg, Zeppelin Rental GmbH, Friedrichshafen, Accelerent GmbH, Berlin, Zeppelin Aviation & Industrial Service GmbH, Friedrichshafen, SITECH Deutschland GmbH, Oberhausen, Meton GmbH, Hoppstädten-Weiersbach, Klickparts GmbH, Hallbergmoos, and Zeppelin Lab GmbH, Berlin, do not disclose their annual financial statements in accordance with § 264 para. 3 HGB or § 264b HGB.

33 Corporate Bodies

The members of the Management Board of Zeppelin GmbH are Mr. Peter Gerstmann (Chairman of the Management Board), Mr. Michael Heidemann (Deputy Chairman of the Management Board), Mr. Christian Dummler (Managing Director), and Ms. Alexandra Mebus (Managing Director and Labor Director).

The members of the Supervisory Board of Zeppelin GmbH are Mr. Andreas Brand (Chairman), Mr. Heribert Hierholzer (Deputy Chairman), Mr. Dr. Reinhold Festge, Mr. Dr. Werner Pöhlmann, Mr. Univ-Prof. Dr.-Ing. Dr.-Ing. e. h. Dr. h. c. Dieter Spath, Mr. Thomas Mann, Ms. Marita Weber, Mr. Ralph Misselwitz, Mr. Frederic Striegler, Ms. Prof. Dr. Yasmin Mei-Yee Weiß, Mr. Prof. Dr. Dr. h. c. mult. Horst Wildemann (until July 31, 2021), Ms. Roswita Feineis (until July 31, 2021), Ms. Carolin Winkel (from August 1, 2021) and Ms. Dr. Kristin Neumann (from August 1, 2021).

Friedrichshafen, March 1, 2022

The Management Board of Zeppelin GmbH

Peter Gerstmann	Michael Heidemann	Christian Dummler	Alexandra Mebus

TRANSLATION – THE GERMAN TEXT IS AUTHORITATIVE

INDEPENDENT AUDITOR'S REPORT

To Zeppelin GmbH, Friedrichshafen

AUDIT OPINIONS

We have audited the consolidated financial statements of Zeppelin GmbH, Friedrichshafen, and its subsidiaries (the Group), which comprise the consolidated statement of profit or loss for the financial year from 1 January to 31 December 2021, the consolidated statement of comprehensive income for the financial year 1 January to 31 December 2021, the consolidated statement of financial position as at 31 December 2021, the consolidated statement of changes in equity for the financial year 1 January to 31 December 2021, the consolidated statement of cash flows for the financial year 1 January to 31 December 2021, and notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the group management report of Zeppelin GmbH, which is combined with the Company's management report, for the financial year from 1 January to 31 December 2021. In accordance with the German legal requirements, we have not audited the content of the statement on corporate governance pursuant to § [Article] 289f Abs. [paragraph] 4 HGB [Handelsgesetzbuch: German Commercial Code] (disclosures on the quota for women on executive boards).

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying consolidated financial statements comply in all material respects with the IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to § 315e Abs. 1 HGB and in compliance with these requirements, give a true and fair view of the assets, liabilities, and financial position of the Group as at 31 December 2021 and of its financial performance for the financial year from 1 January to 31 December 2021 and
- the accompanying group management report as a whole provides an appropriate view of the Group's position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. Our audit opinion on the group management report does not cover the content of the statement on corporate governance referred to above.

Pursuant to § 322 Abs. 3 Satz [sentence] 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the group management report.

BASIS FOR THE AUDIT OPINIONS

We conducted our audit of the consolidated financial statements and of the group management report in accordance with § 317 HGB in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Our responsibilities under those requirements and principles are further described in the "Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report" section of our auditor's report. We are independent of the group entities in accordance with the requirements of German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions on the consolidated financial statements and on the group management report.

OTHER INFORMATION

The executive directors are responsible for the other information. The other information comprises the statement on corporate governance pursuant to § 289f Abs.4 HGB (disclosures on the quota for women on executive boards) as an unaudited part of the group management report.

Our audit opinions on the consolidated financial statements and on the group management report do not cover the other information, and consequently we do not express an audit opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the group management report or our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

RESPONSIBILITIES OF THE EXECUTIVE DIRECTORS AND THE SUPERVISORY BOARD FOR THE CONSOLIDATED FINANCIAL STATEMENTS AND THE GROUP MANAGEMENT REPORT

The executive directors are responsible for the preparation of the consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to § 315e Abs. 1 HGB and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position, and financial performance of the Group. In addition, the executive directors are responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the executive directors are responsible for assessing the Group's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, the executive directors are responsible for the preparation of the group management report that, as a whole, provides an appropriate view of the Group's position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, the executive directors are responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a group management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the group management report.

The supervisory board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements and of the group management report.

AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS AND OF THE GROUP MANAGEMENT REPORT

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the group management report as a whole provides an appropriate view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our audit opinions on the consolidated financial statements and on the group management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with § 317 HGB and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements and this group management report.

We exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements and of the group management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our audit opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures (systems) relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an audit opinion on the effectiveness of these systems.
- Evaluate the appropriateness of accounting policies used by the executive directors and the reasonableness of estimates made by the executive directors and related disclosures.
- Conclude on the appropriateness of the executive directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the group management report or, if such disclosures are inadequate, to modify our respective audit opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.
- Evaluate the overall presentation, structure, and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position, and financial performance of the Group in compliance with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to § 315e Abs. 1 HGB.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express audit opinions on the consolidated financial statements and on the group management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinions.

Reproduction of the Auditor's Report

- Evaluate the consistency of the group management report with the consolidated financial statements, its conformity with German law, and the view of the Group's position it provides.
- Perform audit procedures on the prospective information presented by the executive directors in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive directors as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate audit opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Munich, March 1, 2022

PricewaterhouseCoopers GmbH
Wirtschaftsprüfungsgesellschaft

Klaus Schuster German Public Auditor	p.p. Bernhard Obermayr German Public Auditor

ABOUT THIS PUBLICATION

Zeppelin GmbH

Headquarters
Graf-Zeppelin-Platz 1
85748 Garching bei München
Phone +49 89 320 00 - 0
Fax +49 89 320 00 - 482

Company headquarters
Graf-Zeppelin-Platz 1
88045 Friedrichshafen
Phone +49 7541 202 - 02
Fax +49 7541 202 - 1210

zeppelin@zeppelin.com
zeppelin.com

Corporate Communications
Phone +49 89 320 00 - 440
Fax: +49 89 320 00 – 7 440
Email: presse@zeppelin.com

For annual reports and further information about Zeppelin, please visit our website at zeppelin.com.

The Annual Report was published in March 2022. It is also available in German.

Agency
Söllner Communications AG, Munich, Germany