KUKA

Annual Report 2021

beyond automation

Key figures

in € millions	2020	2021	Change in %
Orders received			
Systems	715.3	981.8	37.3
Robotics	901.3	1,081.3	20.0
Swisslog	643.9	749.8	16.5
Swisslog Healthcare	188.0	238.8	27.0
China	490.4	681.4	39.0
Group	2,792.2	3,565.3	27.7
Sales revenues			
Systems	671.6	978.3	45.7
Robotics	899.2	1,020.7	13.5
Swisslog	527.7	650.9	23.4
Swisslog Healthcare	204.2	205.0	0.4
China	397.1	589.1	48.4
Group	2,573.5	3,286.2	27.7
Order backlog (Dec. 31)	**1,992.6**	**2,311.9**	**16.0**
EBIT			
Systems	-37.4	31.1	>100
Robotics	-3.9	61.8	>100
Swisslog	0.8	19.0	>100
Swisslog Healthcare	3.0	3.8	26.1
China	-4.7	10.2	>100
Group	-113.2	61.8	>100
EBIT in % of sales			
Systems	-5.6	3.2	880 Bp
Robotics	-0.4	6.1	650 Bp
Swisslog	0.1	2.9	280 Bp
Swisslog Healthcare	1.5	1.8	30 Bp
China	-1.2	1.7	290 Bp
Group	-4.4	1.9	630 Bp
Earnings after taxes	**-94.6**	**49.4**	**>100**

in € millions	2020	2021	Change in %
Financial position			
Free cash flow	37.0	100.4	>100
Capital employed (annual average)	1,321.1	1,245.5	-5.7
ROCE	-8.6	5.0	>100
Capital expenditure	80.7	101.4	25.6
Employees (Dec. 31)[1]	13,700	14,128	3.1
Net assets and financial position			
Balance sheet total	3,116.5	3,709.1	19.0
Equity	1,203.7	1,354.6	12.5
in % of balance sheet total	38.6	36.5	-210 Bp
Share			
Weighted average number of shares outstanding (in millions of shares)	39.8	39.8	–
Diluted/undiluted earnings per share (in €)	-2.59	0.98	>100
Dividend per share (in €)	0.11	0.11[2]	–
Market capitalization (Dec. 31)	1,635	2,904	77.6

Bp: Basis point (= 1/100 percentage point)

[1] The term “employee” refers equally to persons of all gender identities. Figures for employees are based on the full-time equivalent throughout the annual report.

[2] Subject to approval by shareholders at the Annual General Meeting on May 17, 2022

KUKA at a glance

KUKA is a global automation company with sales revenues of around 3.3 billion euro and a workforce of about 14,000. As one of the world's leading suppliers of intelligent automation solutions, KUKA offers its customers a full range of products and services from a single source: from the core component – such as robots, automated guided vehicles (AGVs) and other automation components – to production cells, turnkey systems and networked production with the aid of cloud-based IT tools. Industrie 4.0 is bringing the digital networking of production, flexible manufacturing concepts and new business models to the fore. The aim is to support customers by providing comprehensive automation and digitalization know-how in order to optimize their value creation.

Key figures 2021

Sales revenue	Orders received	Employees
3.3 billion €	3.6 billion €	14,128

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Foreword

Dear Shareholders,

I have been proud to call myself a member of the KUKA family for just under ten years now. And the past year 2021 clearly demonstrated what makes this company and its people so special. It is not only the great expertise and the broad positioning in so many different industries and countries. Above all, it is the “KUKA Spirit”. That is something that money can’t buy, but something that comes about when people happily work together successfully.

After a very tough year in 2020 due to the coronavirus crisis, all the signs at KUKA indicated a return to old strength. Thanks to the unparalleled dedication of our approximately 14,000 employees, we have fought our way back to where we belong: the forefront. Anyone who thought that the cutbacks and necessary belt-tightening and restructuring measures resulting from the crisis had done lasting dam-age to the company has been proven wrong: with revenues of 3.29 billion euro (+28%) and orders received totaling 3.57 billion euro (+28%), we delivered a record year. We managed to leave the red figures well behind us with an EBIT of 61.8 million euro. While three of our five divisions still made losses in 2020, this time they all recorded solid growth figures and were in the black. This was despite the fact that, due to the ongoing pandemic and the resulting supply chain difficulties, the circumstanc-es were anything but favorable.

On the orders side, the strong market pull in the e-mobility sector gave us a boost, particularly in the USA. At KUKA, we not only have decades of experience in conventional automotive manufacturing, but have also mastered new areas, such as battery assembly or lightweight bodies for electrified vehicles. We are also aided by our clear focus on the Chinese market – the China division recorded a 39 percent increase in orders. The Chinese market was among the first to return to full speed after the corona-virus-related slump. There is no other country in the world that has as many robots in operation as the Middle Kingdom. And there is no other state in which growth rates are so high. It is therefore all the more important for us to have a strong local team of market-oriented development, sales and produc-tion staff. The partnership with our Chinese majority owner Midea is helping us to open doors in China and automate new areas.

Our robotics business reflected the global trend towards more automation. Never before have KUKA robots been used in so many different branches of industry. From workshops to beverage bottlers, from chocolate museums to mill operations. Our mission to make life and work easier and to simplify the process of starting out in automation is what drives us on and will continue to provide momentum in the years to come. The key competence in this area is primarily on the software side, and so our largest development project, the new iiQKA robot control platform, is the path to the digital future. For a long time now, it has no longer been sufficient merely to manufacture

Alexander Tan
Chief Financial Officer

Peter Mohnen
Chief Executive Officer

high-performance machines. It is only with easy operation and flexible digital connectivity options that our products create added value. This trend is set to continue, increasing the proportion of digital products in our portfolio relative to hardware.

Our broad-based business segments help us to remain flexible: intralogistics, in other words the au-tomated warehousing and order-picking of commercial products, continues to boom. And with Swisslog, we are benefiting from this trend towards greater individualization in retail and further growth in e-commerce. Over 16 percent growth in the volume of orders received speaks for itself. Here, too, we expect above-average growth to continue.

Due to the nature of our company with a relatively low production depth, the supply chain has often been in focus. Managing a globe-spanning network of component sources flexibly has been more challenging since the pandemic than almost ever before. The war in Ukraine has added a new devel-opment that virtually defies predictions. Despite the fact that we have so far had very little in the way of business activities in Ukraine and Russia, the strained global supply chains and the expected infla-tion in the commodities segment will mean worldwide uncertainty in almost all sectors of industry. I have confidence in our highly effective production, logistics and purchasing team, which once again managed to maintain uninterrupted production at our locations in Germany, China and Hungary last year despite all the restrictions, volatile price developments and problems in the procurement of a wide range of different parts. And all this despite the fact that, due to the demand situation, far more robots were manufactured than had been planned at the start of 2021.

These achievements make me proud and we are aware at KUKA that such a development is no coin-cidence, but the result of constant hard work and dedication. Together with a strong team, I am look-ing forward to continuing to do everything in my power to move KUKA forward in the future and come a step closer to our vision of becoming the undisputed number 1 in smart automation.

Peter Mohnen

Sincerely, Peter Mohnen

Supervisory Board report

Dear Shareholders,

After an economically difficult year in 2020, we can look back on a very successful year in fiscal 2021. Despite the ongoing coronavirus pandemic and other considerable challenges, such as global supply shortages of commodities and components, the speed of KUKA's turnaround within one year was remarkable. Once again, it became clear that Automation & Robotics are key topics for the future and that the demand for KUKA products and solutions remains high and has the prospect of increasing further in the future. However, current events show that the 2022 fiscal year will bring further challenges for KUKA: besides the coronavirus pandemic and the existing supply bottlenecks, the escalated conflict between Russia and Ukraine has now come to the fore. The humanitarian, political and economic impact of this conflict cannot be assessed at present. To the best of its ability, the Supervisory Board will support the Management Board and the employees at KUKA in their efforts to minimize the impact on KUKA as a company, its workforce and its business success.

Fiscal 2021 was a busy year for the Supervisory Board and its committees. Due to the large number of topics, the Supervisory Board and its committees held significantly more meetings than in a normal year. The topics were and are of great importance to KUKA, with the result that intensive support and involvement by the Supervisory Board and its committees were appropriate and necessary. Of particular note in this respect are, for example, discussion of a growth strategy for the coming years (Winning 2025), analysis of the ongoing coronavirus pandemic and its impact on KUKA, discussion and evaluation of the squeeze-out proposal announced by Midea Group in November 2021, and the personnel decisions concerning the Management Board of KUKA Aktiengesellschaft.

The outstanding performance and commitment of KUKA Group employees deserve special mention. As a result of the coronavirus pandemic, working conditions and work procedures in fiscal 2021 again differed from those in normal years. With great dedication and a high degree of flexibility, they ensured that customer orders were processed even under difficult circumstances, that supply chains were maintained and that important development projects were continued.

In the year under review, the Supervisory Board performed the duties incumbent upon it by law, the Articles of Association and the Rules of Procedure in full. The Supervisory Board and its committees monitored and advised the Management Board in its management of the company on the basis of regular and detailed reporting by the Management Board. Furthermore, there was an intensive exchange between the Chairman of the Supervisory Board and the Chairman of the Management Board as well as a regular exchange between the Chairs of the Audit Committee and the Strategy and Technology Committee and the members of the Management Board. In this way, the Supervisory Board was always informed about the business policy, corporate planning, corporate risks and situation of the company and the Group as a whole.

Cooperation between the Supervisory Board and the Management Board was constructive.

The Supervisory Board performed its duties in plenary sessions, committee meetings, telephone and video conferences, and by means of circular resolutions. Due to the coronavirus pandemic and the associated travel restrictions, the meetings of the Supervisory Board and its committees in the reporting period were held exclusively in virtual form by means of video conferencing.

Changes to the Management Board and Supervisory Board

The Management Board of KUKA Aktiengesellschaft currently consists of its Chairman Peter Mohnen (CEO) and Alexander Tan (CFO). Andreas Pabst was a member of the company's Management Board until June 30, 2021. Alexander Tan was appointed as the company's new CFO with effect from July 1, 2021.

During the reporting period, there was no cause to alter the quota for female Management Board members, which is currently set at 0 percent.

The Supervisory Board members representing the shareholders were elected by the Annual General Meeting on June 6, 2018. The employee representatives on the Supervisory Board were elected on April 10, 2018, in accordance with the provisions of the German Co-Determination Act (MitbestG), and with effect from the conclusion of the Annual General Meeting on June 6, 2018. The following changes have been made to the Supervisory Board since the last Supervisory Board report:

› Dr. Chengmao Xu resigned from his office with effect from January 17, 2021.
› Lin (Avant) Bai was elected as a member of the Supervisory Board by the Annual General Meeting on May 21, 2021; he had previously been appointed to the Supervisory Board by court order on February 23, 2021.

At the time the report of the Supervisory Board was submitted, the Board was thus composed of the following members:

Shareholder side:	Dr. Yanmin (Andy) Gu (Chairman) Lin (Avant) Bai Prof. Dr. Henning Kagermann Min (Francoise) Liu Dr. Myriam Meyer Helmut Zodl
Employee side:	Michael Leppek (Deputy Chairman) Wilfried Eberhardt Manfred Hüttenhofer Armin Kolb Carola Leitmeir Tanja Smolenski

With four females out of a total of twelve acting members, the proportion of women on the Supervisory Board amounted to 30 percent at the end of the year under review.

Supervisory Board meetings

In 2021, the year under review, five ordinary and six extraordinary Supervisory Board meetings were held. Furthermore, one resolution was passed by written circulatory procedure.

The first extraordinary meeting of the Supervisory Board was held on March 3, 2021; it dealt with the new compensation system for the Management Board and the reappointment of the Management Board members.

The first ordinary meeting of the Supervisory Board took place on March 24, 2021. First, the nomination of Mr. Lin (Avant) Bai as a member of the Supervisory Board was resolved by the 2021 Annual General Meeting as well as his appointment to the Strategy and Technology Committee. The Management Board then reported on the situation of the company and the Group. The Supervisory Board meeting was centered on the 2020 annual financial statements prepared for KUKA Aktiengesellschaft and the Group. In its role as auditor, PricewaterhouseCoopers (PwC) presented a report and the Chairman of the Audit Committee made a statement. Both sets of annual accounts were approved by the Supervisory Board, which meant that the annual financial statements of KUKA Aktiengesellschaft were thereby adopted. The Supervisory Board also had to reach a decision on the proposal regarding appropriation of the 2020 balance sheet profit. Additionally, it adopted the Supervisory Board report for 2020. The Supervisory Board also dealt with the sustainability report pursuant to sections 315b, 315c, 289c of the German Commercial Code (HGB). The Supervisory Board reviewed this report – as the Audit Committee had done in advance – and raised no objections to it. Furthermore, the Supervisory Board addressed the KUKA/Midea dependency report for 2020. The Supervisory Board dealt with other operational issues such as the convening of the 2021 Annual General Meeting with proposed resolutions to the Annual General Meeting, the scheduling of the 2022 Annual General Meeting, the new compensation system for Management Board members, and the compensation of the Supervisory Board.

On April 30, 2021, another extraordinary meeting was held to discuss the reappointment of the Management Board members.

A further extraordinary Supervisory Board meeting was held on May 19, 2021. At this meeting, it was resolved to reappoint Mr. Mohnen as Chairman of the Management Board ahead of schedule, to terminate the appointment of Andreas Pabst, and to look for a new CFO. Furthermore, it was decided to initiate the search for a CTO.

On the day of the Annual General Meeting held on May 21, 2021, the Supervisory Board convened for ordinary meetings before and after the Annual General Meeting. At the meeting prior to the Annual General Meeting, the Management Board again reported on the situation of the company and the Group. The Supervisory Board then prepared itself for the Annual General Meeting. In the meeting following the Annual General Meeting, the composition of the Strategy and Technology Committee was discussed and approved. In addition, a report on the internal control systems (ICS report 2020) was presented. The Supervisory Board also addressed the medium-term strategy for KUKA. As part of the regular training program, attorney Dr. Christian Vogel spoke on the self-evaluation of the Supervisory Board.

An extraordinary Supervisory Board meeting was held on June 19, 2021. At this meeting, the new employment contract with Mr. Peter Mohnen and the termination agreement with Mr. Andreas Pabst were concluded. Furthermore, the appointment of Mr. Alexander Tan as a member of the Management Board was resolved.

A further extraordinary meeting of the Supervisory Board was held on July 30, 2021. At this meeting, in addition to a report by the Management Board on the economic situation, the medium-term strategy of the Group was addressed once again and a decision was taken on the investment in the KUKA Guangdong Park.

A regular Supervisory Board meeting was then held again on September 22, 2021. The Management Board also reported on the situation of the company and the Group at this meeting. Other topics included the strategic focus of the Group as well as contractual arrangements concerning the members of the Management Board and the adoption of Alexander Tan’s personal targets.

The last ordinary meeting of the Supervisory Board in fiscal 2021 was held on November 10, 2021. The Management Board once again reported to the Supervisory Board on the situation of the company and the Group. Another key focus of this meeting was the budget for 2022 and the medium-term planning up to 2024. The chairs of the Supervisory Board committees then presented a summarized report on the work of the Personnel Committee, the Audit Committee and the Strategy and Technology Committee. The Supervisory Board was also informed about the status of the KUKA Vision 2025 strategy. Furthermore, the Supervisory Board received an update on a special project in the Swisslog Healthcare segment (TheraPick). Finally, a preliminary discussion of the Declaration of Compliance and the Corporate Governance Statement took place.

The last extraordinary Supervisory Board meeting in 2021 was held on November 23, 2021. This meeting mainly addressed the squeeze-out, the delisting of KUKA and its effects. Furthermore, a long-term growth plan was discussed.

Meetings of the Supervisory Board committees

The Supervisory Board has a total of five committees. The duties and members of the committees are listed in the Corporate Governance Statement and are available on the company’s website at www.kuka.com.

The Personnel Committee convened a total of 12 times in the 2021 reporting year. It dealt with all topics relating to Management Board matters, including the early reappointment of Mr. Peter Mohnen, the departure of Mr. Andreas Pabst, the appointment of Mr. Alexander Tan, and Management Board compensation in accordance with the new compensation model for the Management Board with effect from 2021. In conjunction with the reappointment or replacement of Management Board members, the Mediation Committee was called upon. This met a total of twice and assisted the Personnel Committee and the full Supervisory Board in deciding on the appointment of Management Board members.

The Audit Committee held four meetings in fiscal 2021. At the meetings, the quarterly reports of KUKA Aktiengesellschaft and KUKA Group were discussed. Other recurring topics were the current earnings forecast, risk reporting including critical projects, the report of the Chief Compliance Officer and the report of the Head of Internal Audit. Additionally, other specific topics were addressed in depth at the various meetings of the Audit Committee. For example, the sustainability report was discussed and reviewed by the Audit Committee and recommended to the full Supervisory Board for its own review. In preparation for the Supervisory Board’s financial statements meeting on March 24, 2021, a regular meeting of the Audit Committee was held on March 11, 2021. At this meeting, the Audit Committee focused on the 2020 annual financial statements of KUKA Aktiengesellschaft and KUKA Group and received a report on the results of the audit by the auditors.

The Strategy and Technology Committee convened four times in fiscal 2021. The strategy for the Group as a whole and for the individual segments was discussed.

The Nomination Committee convened on March 18, 2021. At this meeting, the Nomination Committee prepared the Supervisory Board's proposal to the Annual General Meeting on May 21, 2021 for the election to the Supervisory Board of Lin (Avant) Bai as a shareholder representative.

The Mediation Committee held two meetings in fiscal 2021. The reappointment of Management Board members was discussed at the meeting on May 6, 2021, and the reappointment of Peter Mohnen and the departure of Andreas Pabst at the meeting on May 16, 2021.

The members of the Supervisory Board attended the following meetings of the Supervisory Board and the committees in the 2021 reporting year:

	Supervisory Board (full)		**Nomination Committee**		**Mediation Committee**		**Personnel Committee**		**Audit Committee**		**Strategy and Technology Committee**	
	Number	in %	Number	in %	Number	in %	Number	in %	Number	in %	Number	in %
Dr. Andy Gu Chairman	11/11	100	1/1	100	2/2	100	12/12	100	4/4	100	4/4	100
Michael Leppek Deputy Chairman	11/11	100	–	–	2/2	100	12/12	100	4/4	100	4/4	100
Avant Bai[1]	9/11	81	–	–	–	–	–	–	–	–	2/4	50
Wilfried Eberhardt	11/11	100	–	–	–	–	–	–	–	–	–	–
Manfred Hüttenhofer	11/11	100	–	–	–	–	–	–	–	–	4/4	100
Prof. Dr. Henning Kagermann	11/11	100	–	–	–	–	–	–	–	–	4/4	100
Armin Kolb	11/11	100	–	–	–	–	12/12	100	–	–	4/4	100
Carola Leitmeir	11/11	100	–	–	2/2	100	–	–	4/4	100	4/4	100
Francoise Liu	11/11	100	1/1	100	2/2	100	12/12	100	–	–	4/4	100
Dr. Myriam Meyer	11/11	100	–	–	–	–	–	–	4/4	100	4/4	100
Tanja Smolenski	10/11	90	–	–	–	–	–	–	4/4	100	–	–
Helmut Zodl	8/11	72	–	–	–	–	–	–	4/4	100	–	–
		95.25		**100**		**100**		**100**		**100**		**94.44**

[1] Avant Bai was appointed to the Strategy and Technology Committee after the Annual General Meeting on May 21, 2021. He attended all meetings of the Strategy and Technology Committee held after the Annual General Meeting on May 21, 2021. Dr. Chengmao Xu resigned from office as of January 17, 2021.

Independence and conflicts of interest, Declaration of Compliance

Supervisory Board members Dr. Yanmin (Andy) Gu and Lin (Avant) Bai are employed by Midea Group, which holds 95.31 percent of the shares in KUKA Aktiengesellschaft according to information provided to the company. Dr. Yanmin (Andy) Gu also holds an executive position within this group. Ms. Min (Francoise) Liu was employed by Midea Group until May 31, 2021, but took up a new post with Qiantang Education Foundation with effect from June 1, 2021. For this reason, Ms. Liu has been considered independent since June 1, 2021.

In the extraordinary Supervisory Board meeting on November 23, 2021, Dr. Yanmin (Andy) Gu and Lin (Avant) Bai did not exercise their voting rights relating to the Squeeze-Out. These members of the Supervisory Board abstained from voting in order to avoid a potential conflict of interest.

The Supervisory Board and the Management Board submitted identically worded declarations in accordance with section 161 of the German Stock Corporation Act (AktG). The resolutions were adopted by the Management Board and the Supervisory Board on February 9, 2022. The Declarations of Compliance were made permanently available to shareholders on the company's website.

Work with the auditors

The annual financial statements of KUKA Aktiengesellschaft as at December 31, 2021 and the Group financial statements as at December 31, 2021, as well as the consolidated management report for KUKA Aktiengesellschaft and KUKA Group, including the bookkeeping, were audited by auditors PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft, Frankfurt am Main (PricewaterhouseCoopers), which issued an unqualified audit opinion in each case on March 10, 2022.

The auditors also reviewed the monitoring system as per section 91 para. 2 of the German Stock Corporation Act (AktG), the purpose of which is the early detection of developments that could threaten the company's existence. KUKA Aktiengesellschaft's consolidated financial statements were prepared in accordance with section 315e para. 1 of the German Commercial Code (HGB) based on the International Accounting Standards (IFRS) as adopted by the European Union.

The Supervisory Board's Audit Committee appointed the external auditors, PricewaterhouseCoopers, as per the resolution at the Annual General Meeting of May 21, 2021. During the course of appointing the auditors of the financial statements of the company and the Group, the chair of the Audit Committee and the Chairman of the Supervisory Board conducted a review with the auditors regarding key audit issues, scope and fees. The auditors agreed to immediately inform the chair of the Audit Committee about any disqualification or bias issues encountered during the audit, provided such disqualification or bias issues could not immediately be resolved. The auditors also agreed to report on an ongoing basis during the audit all material findings and developments arising during the audit that were within the scope of the Supervisory Board's responsibilities. Furthermore, the auditors were instructed to inform the Supervisory Board, or note in the audit report, if information was encountered during the audit that was contrary to the declarations released by the Management Board and Supervisory Board as per section 161 para. 1 sentence 1 of the German Stock Corporation Act (AktG).

Finally, the Audit Committee obtained the arm's length declaration of the auditors and monitored the auditors' independence.

As in previous years – with the focus on different topics each year – focal points were agreed for the audit of the annual financial statements in fiscal 2021. These were: recognition of revenue in accordance with IFRS 15, internal risk reporting and valuation of loss projects, valuation of goodwill, valuation of investments and receivables at KUKA AG, Group tax rate and valuation of deferred taxes.

In a joint meeting with the auditors on March 21, 2022, the Audit Committee reviewed the annual financial statements of KUKA Aktiengesellschaft and the consolidated financial statements for fiscal 2021, taking into consideration the auditors' reports. The Management Board and the auditors presented the highlights of the financial reports to the committee. The Audit Committee members reviewed, discussed and checked in detail the documentation relating to the financial statements and discussed the audit report in depth with the auditors. The auditors answered the questions posed by the Audit Committee members. The Audit Committee reported to the Supervisory Board on the results of its discussions during the Board's meeting on March 28, 2022 and recommended that the Board approve KUKA Aktiengesellschaft's annual financial statements and KUKA Group's consolidated annual financial statements for 2021.

The full Supervisory Board reviewed the draft annual financial statements and the Management Board's recommendation on appropriation of net income on March 28, 2022. The auditors, PricewaterhouseCoopers, attended the Supervisory Board meeting in order to report on material findings in the audit and to provide additional information. All members of the Supervisory Board were in possession of the audit reports provided by the auditors.

PricewaterhouseCoopers explained in detail the assets, liabilities, financial position and profit or loss of the company and the Group and also reported that there were no material weaknesses in the internal control system relating to the accounting process and the risk early detection system. The Board and the auditors jointly reviewed and discussed the financial statements and PricewaterhouseCoopers answered all questions posed by the Audit Committee. The audits of the KUKA Aktiengesellschaft and KUKA Group annual financial statements for 2021 were thus fully comprehensible.

Furthermore, in the meeting on March 28, 2022, a sustainability report for 2021 prepared for KUKA Group pursuant to sections 315b, 315c, 289c of the German Commercial Code (HGB) was reviewed by the plenum following discussion by the Audit Committee. There were no objections.

The compensation report prepared by the Management Board and Supervisory Board within the meaning of section 162 para. 1 of the German Stock Corporation Act (AktG) was also discussed and approved at the meeting on March 28, 2022. The auditor reviewed the compensation report in accordance with the statutory requirements and issued a report on the audit of the compensation report.

Dependency report 2021

On March 28, 2022, the Supervisory Board dealt with the report on relationships with affiliated companies (dependency report) prepared by the Management Board pursuant to section 312 of the German Stock Corporation Act (AktG) for fiscal 2021. This report was reviewed by PricewaterhouseCoopers in its role as auditor for fiscal 2021. Following preparatory discussion by the Audit Committee, the Supervisory Board conducted a further review. All reviews confirmed the Management Board's final declaration that, with regard to the business relationships of KUKA Group with Midea companies in the 2021 fiscal year, appropriate compensation was received and KUKA companies did not suffer any disadvantages therefrom. The audit opinion on the dependency report for fiscal 2021 reads verbatim as follows:

Audit results and audit opinion

In accordance with our mandate and section 313 of the German Stock Corporation Act (AktG), we have audited the report of the Management Board on relations with affiliated companies pursuant to section 312 AktG for the 2021 fiscal year. Since the final results of our audit do not give rise to any objections, we issue the following audit opinion in accordance with section 313 para. 3 sentence 1 AktG:

Based on our audit and assessment in accordance with professional standards, we confirm that

1. the factual statements made in the report are correct,
2. the payment made by the company for the legal transactions listed in the report was not unreasonably high,
3. there are no circumstances that would indicate a materially different assessment of the measures listed in the report than that of the Management Board.

Munich, March 21, 2022

PricewaterhouseCoopers GmbH
Wirtschaftsprüfungsgesellschaft

Adoption of 2021 financial statements

After completing its own review of the financial statements for 2021 for KUKA Aktiengesellschaft and KUKA Group, and with full knowledge and consideration of the Audit Committee report, the auditors' reports and the explanations provided, the Supervisory Board raised no objections to the results and concurred with the auditors' findings at its meeting on March 28, 2022. In the opinion of the Supervisory Board, the auditors' reports comply with the legal requirements stipulated in sections 317 and 321 of the German Commercial Code (HGB).

The Supervisory Board is satisfied that the consolidated management report compiled for KUKA Aktiengesellschaft and KUKA Group is complete. The assessments made by the Management Board in the management report are in agreement with its reports to the Supervisory Board, and the statements made in the consolidated management report are also in agreement with the Supervisory Board's own evaluations. At the conclusion of its review, the Supervisory Board found no cause to raise objections to the consolidated management report. The Supervisory Board also reviewed the Group's sustainability report at its plenary meeting and raised no objections.

In its financial statements meeting on March 28, 2022, the Supervisory Board therefore approved KUKA Aktiengesellschaft's financial statements for fiscal 2021 as prepared by the Management Board. The annual financial statements are thereby adopted. The Supervisory Board also approved KUKA Aktiengesellschaft's consolidated financial statements for the 2021 fiscal year as prepared by the Management Board.

The Management Board recommended payment of a dividend of €0.11 per no-par-value share with dividend entitlement from the balance sheet profit. The Supervisory Board reviewed this recommendation at its meeting on March 28, 2022 and endorsed it.

Thanks to the staff

The Supervisory Board would like to thank all employees of the KUKA companies for their great dedication and hard work, especially during the coronavirus pandemic. The Supervisory Board once again extends its thanks to the members of the Management Board, the CEOs of the Group companies and the employee representatives.

Augsburg, March 28, 2022
The Supervisory Board

Dr. Yanmin (Andy) Gu
Chairman

KUKA and the capital market

KUKA share

As corporate profits rose sharply, so too did share prices, some of which reached all-time highs in 2021. The market environment remained characterized by the flood of liquidity from central banks, and investors even had to accept negative yields on the bond market. Despite the major challenges presented to companies by global supply bottlenecks, rising infection rates and rising inflation rates, investors saw few alternatives to the stock market. At the end of the year, fears of an escalation of the coronavirus crisis due to new and aggressive virus variants once again put pressure on share prices. The markets had not expected such a severe escalation of the coronavirus situation. In this environment, the development of the global economy remains uncertain.

In 2021, the DAX reached a new record high. It tracks the performance of the 40 largest German stocks in terms of market capitalization and turnover that are traded in the Prime Standard segment of the Frankfurt Stock Exchange. In March 2021, the DAX passed the 15,000-point mark for the first time after the sharp price falls in the coronavirus crisis year 2020. The German benchmark index ended the year 2021 at 15,885 points on December 30, 2021.

The MDAX comprises 50 stocks and reflects the price performance of shares in mid-sized companies (mid caps) ranking behind those listed in the DAX in terms of market capitalization and stock exchange turnover. The MDAX rose by 14% over the course of the year, closing at 35,123 points on December 30, 2021. The CDAX, which tracks the performance of all German stocks in the Prime Standard and General Standard, closed at 1,479 points on December 30, 2021. The CDAX thus rose by 14%. KUKA shares (WKN: 620440, ISIN: DE0006204407) are listed in the Prime Standard segment of the Frankfurt Stock Exchange and advanced 94.7% to €73 by the final trading day in 2021. The share prices of companies in the so-called peer group, i. e. companies that have a similar business profile and are of a comparable size, developed very inconsistently, with performance ranging from minus 4% to plus 64%. The average trading volume of KUKA shares on Xetra was around 4,000 shares per day. Due to the share's low free float of less than 5%, its attractiveness for investors has decreased.

At the online Annual General Meeting on May 21, 2021, the shareholders voted to pay a dividend of €0.11 per eligible share for fiscal 2020.

Midea Group Co., Ltd. holds over 95% of shares in KUKA AG through its subsidiaries Guangdong Midea Electric Co., Ltd. as well as Midea Electric Netherlands (I) B.V. and Midea Electric Netherlands (II) B.V. As the majority shareholder, Guangdong Midea Electric Co., Ltd. (Midea) informed KUKA AG on November 23, 2021 of its intention to initiate a so-called squeeze-out process and delist KUKA AG. Specifically, Midea submitted a formal request in its letter pursuant to section 327a para. 1 sentence 1 AktG that the Annual General Meeting of KUKA AG resolve to transfer the shares of the remaining shareholders (minority shareholders) to Guangdong Midea Electric Co., Ltd. in return for an appropriate cash compensation. Furthermore, Midea pledged to support KUKA in their joint long-term growth plan, and in particular to uphold the production site in Augsburg until at least 2025, to keep Augsburg as the leading R&D center for KUKA until at least 2025, and to increase the annual R&D budget by at least 15% by 2025 compared to 2021. Based on Midea's support of the joint growth plan and after a thorough review of Midea's commitments, the Management Board and Supervisory Board decided that a stock market listing for KUKA in Germany was unnecessary, as KUKA has not refinanced itself via the capital market since the acquisition by Midea in 2016. It is planned for the transfer resolution to be adopted at KUKA's next Annual General Meeting. Against the background of the transfer request, the Annual General Meeting is to be held in May 2022.

		2017	2018	2019	2020	2021
Weighted average number of shares outstanding	millions of shares	39.78	39.78	39.78	39.78	39.78
Earnings per share	€	2.22	0.32	0.24	-2.59	0.98
Dividend per share	€	0.50	0.30	0.15	0.11	0.11 [1]
High for the year (Xetra closing price)	€	248.90	126.80	63.60	41.20	81.00
Lowest price (Xetra closing price)	€	87.38	46.80	36.15	22.50	36.10
Year-end price (Xetra closing price)	€	121.15	50.80	36.50	41.10	73.00
Change year-on-year	%	36.8	-58.1	-28.1	12.6	94.7
Market capitalization (Dec. 31)	€ millions	4,819	2,021	1,452	1,635	2,904
Average daily volume	No. of shares	14,000	6,000	3,500	4,000	4,000

[1] Subject to approval by shareholders at the Annual General Meeting on May 17, 2022

KUKA share price performance
January 1 – December 31, 2021[1]

[1] December 30, 2020 = 100, stock performance indexed, Xetra stock price

Consolidated management report

Consolidated management report

Fundamental information about the Group

Group structure and business activities

KUKA is one of the world's leading automation specialists and supports its customers in the holistic optimization of their value creation by providing comprehensive automation and digitalization know-how.

The global technology corporation offers its customers a full range of products and services from a single source: from the core component – such as robots, automated guided vehicles (AGVs) and other automation components – to production cells, turnkey systems and networked production with the aid of cloud-based IT tools. Through its advanced automation solutions KUKA contributes to increased efficiency and improved product quality for its customers.

Industrie 4.0 – the next stage of the Industrial Revolution – is bringing digital, networked production, flexible manufacturing concepts and logistics solutions, as well as new business models to the fore. With its decades of experience in automation, in-depth process know-how and cloud-based solutions, KUKA ensures its customers have an edge on the competition.

KUKA focuses on its customers and therefore divides its operating activities into the following five segments: Systems, Robotics, Swisslog, Swisslog Healthcare and China. The holding functions are pooled in the Corporate Functions segment, which mainly comprises KUKA AG.

Systems division

The Systems portfolio covers the entire value chain of a system: from individual system components, tools and fixtures to complete turnkey systems. From traditional body-in-white production in the automotive industry, through battery production plants in the electromobility sector to initial non-automotive projects in the non-automotive sector: the goal is the efficient design of production processes by means of adaptable, modular and automated manufacturing and logistics processes. Systems works together with its customers on flexible, scalable concepts and solutions for the factory of tomorrow. As an automation specialist for hardware and software solutions, Systems provides impetus for the digital factory.

Markets in Germany and elsewhere in Europe are served from the headquarters in Augsburg, while the Greater Detroit area in the USA is responsible for the North/South America region, and Shanghai in China manages the Asian market. In Toledo, USA, KUKA Toledo Production Operations (KTPO) manufactures the Jeep® Gladiator for Chrysler under the terms of a pay-on-production contract.

Robotics division

The core component for automating production processes is supplied by the Robotics division: industrial, collaborative and mobile robots – together with robot controllers, software and digital services for the Industrial Internet of Things. The broad product portfolio – ranging from traditional 6-axis robots to DELTA and SCARA robots – covers payload ranges from three to 1,300 kilograms. In addition, the Robotics portfolio includes robot-based, modular manufacturing cells for a wide range of applications. This enables KUKA to meet the various requirements of its customers optimally. Robotics also offers comprehensive support services. Customers can attend technical training and professional development courses in KUKA Colleges at more than 30 sites worldwide. Most robot models are developed, assembled, tested and shipped in Augsburg. The control cabinets are produced in two Hungarian plants, in Taksony and Füzesgyarmat.

KUKA Robotics is continuously expanding the range of products so as to offer customers from all kinds of sectors the solutions that are appropriate for them and to allow even small and medium enterprises to use robots economically. Research & development activities have an important role to play here. The trend is also towards robots that are simple to program, flexible to deploy and easily integrated and networked. Enhanced with mobility and autonomous navigation, robots are being transformed into flexible production assistants that are becoming more and more intelligent.

KUKA's new products and technologies open up additional markets and create new applications for robot-based automation. Robots will play a key role in the factory of the future. By taking these measures, industrial nations will be able to expand their competitiveness and, at the same time, mitigate the effects of demographic change on the labor market.

Swisslog division

With its Swisslog division, KUKA is tapping the growth markets of e-commerce/retail and consumer goods in the field of intralogistics. Based in Buchs, Aarau, Switzerland, Swisslog serves customers in over 50 countries worldwide. The division implements integrated automation solutions for forward-looking warehouses and distribution centers. As a general contractor, Swisslog offers complete turnkey solutions, from planning through to implementation and service, employing data-driven and robot-based automation in particular. Swisslog offers smart technologies, innovative software and adapted support services to improve the long-term competitiveness of its customers in the logistics sector. By combining Swisslog logistics solutions with the robotic automation solutions of the other divisions of the Group, KUKA offers new possibilities of flexible automation along the entire value chain.

Swisslog Healthcare division

The Swisslog Healthcare division (HCS) develops and implements automation solutions for modern hospitals. The aim is to boost efficiency and increase patient safety. With the aid of process optimizations in the field of medication management during and after in-patient treatment, hospital staff can free up more time for patient care. At the same time, the use of automation solutions can reduce the incidence of medication errors.

China division

The China segment comprises all business activities of the Chinese companies in the Systems, Robotics, Swisslog and Swisslog Healthcare divisions. In addition to KUKA industrial robots, automation solutions such as warehouse management systems and automated solutions for the healthcare sector are developed, offered and marketed in China. Industrial robots are manufactured at the locations in Shanghai and Shunde and sold on the Chinese market. Furthermore, new robot models, such as the SCARA and DELTA robots, have been developed in China.

Markets, trends and competitive positions

Megatrends drive automation in the medium and long term

Megatrends such as digitalization, the customization of products, demographic changes, and also greater regionalization due to global uncertainties necessitate increasingly flexible and at the same time more efficient solutions in production and intralogistics environments. In the medium term, these developments will continue to intensify, especially as a result of the experience gained from the coronavirus crisis. This demonstrates the importance of new approaches and business models that enable customers to adapt their processes flexibly to rapidly changing market requirements.

New ground rules in the automation market

Automation in the worlds of production and intralogistics is continuously advancing. Many production and material flow processes are no longer conceivable without it. The role of the robot in production shops has undergone great change. In the past, isolated robots were used to automate individual tasks and process steps behind safety fences. Automation has traditionally been a complex task, from programming through to commissioning. The trend today is to lower the barriers to entry for automation by simplifying installation, deployment and operation, improving software and safety functions, and reducing costs. This leads to increased productivity and flexibility. Trends in technology, such as digitalization, machine learning and artificial intelligence, are accelerating these developments.

Already today, China's influence on the global automation market is becoming increasingly apparent. Chinese players are not only expanding their domestic market share, but also occupying premium segments with standard technology at low prices.

KUKA is one of the leading automation companies in various industries and regions in Europe (automotive industry, intralogistics automation), North America (systems) and China (automotive industry). In recent years, KUKA has strengthened its presence in China and invested in establishing a local foothold in order to address the specific requirements of Chinese customers and accelerate the time to market. Robot models for the Chinese market are manufactured at the KUKA production locations in Shanghai and Shunde.

In 2020, the global economy experienced an unprecedented slump. The difficult political and economic situation was compounded by the coronavirus pandemic, and customers were reluctant to invest. The International Federation of Robotics (IFR) forecast a recovery for the automation market in 2021 but does not expect the pre-crisis level to be reached again until 2022/2023.

In the medium term, KUKA expects robotic and automation solutions in particular to be in greater demand as a result of the experience gained from the coronavirus crisis, in order to compensate for personnel bottlenecks, reduce workforce costs and promote efficiency and flexible adaptation to changing market requirements and dynamics. Furthermore, the increased reshoring trend with the goal of improving the resilience of supply chain systems is also expected to boost demand, especially in high-wage countries.

Group strategy

One of KUKA's core tasks is acting as a partner to support our customers in their automation and digitalization activities. In a rapidly changing environment characterized by global megatrends and ever-increasing competition, the key to future growth lies in understanding the specific requirements of our customers in different industries and regions in order to create unique added value for them. In doing so, we always remain focused on current developments and trends in our core industries. From easy-to-use, flexible automation to mobile, data-driven and scalable solutions, we offer answers to tomorrow's needs today.

With our strategy, we are gearing ourselves towards global trends while pursuing a clear goal, our vision: to become the first choice for intelligent automation. In the long term, KUKA is focusing on three strategic directions:

1. Focus on leadership in innovation and technology

KUKA sets technological standards and stands for innovations in data- and robot-based automation

In order to benefit from global trends and exploit our own expertise to the full, KUKA will continue to focus on leadership in innovation and technology in the coming years. Increasing complexity, growing numbers of variants with fluctuating production volumes, new technologies and continually intensifying global competition (in terms of prices) are presenting customers with new challenges. They require flexible automation solutions in order to adapt quickly to a changing environment and continuously improve efficiency. This also applies to mobile automation solutions, which are becoming increasingly attractive in terms of functionality and pricing. Together with customers and partners, KUKA is developing smart products and solutions for the digitalized smart factory of the future, in which robots will be a central, crisis-proof component.

The trend is towards robots and automated systems that are simple to program, flexible to deploy and easily integrated and networked. Automation will become easier and more intuitive in the future. With its future operating system and ecosystem, iiQKA, KUKA is taking an important step in this direction and setting the course for Mission 2030: to make automation available to all.

In the automotive industry, electromobility is a key driver of change. Over the next decade, as electric cars become more widespread, the entire new energy vehicle ecosystem will undergo a major transformation. KUKA will continuously expand its expertise here in order to play an important role in supporting the mobility of the future.

In the field of intralogistics, KUKA concentrates on data-driven and robot-controlled automated logistics solutions. Here, Swisslog sets new standards in warehouse automation based on future-proof products. Standardized automation solutions for core industries enhance material flow capabilities, maximize throughput and optimize life-cycle costs while being just as important as Swisslog's SynQ warehouse management software for streamlining material flow processes.

Drawing on decades of experience, Swisslog Healthcare supports hospitals and healthcare systems in optimizing their processes. In so doing, Swisslog Healthcare distinguishes itself by combining the areas of material handling and pharmaceutical automation and strengthens its position as one of the world's leading providers of medication management. By networking these two specialist fields with software and analytics solutions, transparency is increased and cross-disciplinary efficiency is enhanced. Swisslog Healthcare focuses on developing holistic, industry-specific products and services for customers worldwide to shape the future of care by implementing flexible, effective and scalable solutions.

2. Business expansion: new markets, software & services

KUKA is continuously diversifying its business activities into high-growth, profitable business segments

KUKA concentrates on markets that are primarily characterized by high growth and profit potential and on regional growth opportunities, especially in fast-growing Asian countries. While KUKA has benefited greatly in the past from its pioneering role in automotive automation, future potential is increasingly emerging in areas outside the automotive sector and in the Chinese market:

Automotive

The automotive industry has always been of great importance to KUKA and remains a key pillar. It is a very important driver of technology and innovation and has been in a period of transition for some time. Established concepts and business models are undergoing major changes in terms of the way vehicles are developed, built, sold and used. KUKA will continue to grow around the world with its expanding portfolio of automotive and tier 1 customers and support them as a partner in automation, digitalization and electrification.

Electronics

The electronics industry is one of the most diverse sectors in the present-day industrial landscape. It includes the production of household electrical appliances, cutting-edge technologies such as semiconductors or solar cells, and industrial electronics. The most important submarket with the highest revenues is the 3C market (computers, communications and consumer electronics).

Metal & plastics

Entry into robot-based automation in emerging markets often starts with arc welding applications. Robots are used not only for welding applications and machine handling, but also for a wide range of other tasks, for example polishing or processing, due to their comprehensive functionality. This also opens up new growth opportunities in saturated industries.

E-commerce & retail

Electronic commerce results in large quantities of varied goods being sent to consumers via goods distribution centers. Fast and correct order fulfillment is crucial for profitable operations and can only be achieved in the long term through automation. The e-commerce segment is therefore an important sales market for smart logistics concepts based on intelligent software and combined with innovative, robot-based automation.

Consumer goods

Robots have been efficiently and successfully supporting the production of fast-moving consumer goods (FMCG) for many years, especially in the food and beverage industry, but also in shoe or textile production, cosmetics and pharmaceuticals.

Healthcare

The healthcare sector is one of the most important growth markets of the future. Demographic change, medical innovations and the development of healthcare systems in emerging countries, as well as the shortage of skilled workers and the increasing cost awareness of healthcare facilities, are creating a need for new solutions. The automated supply of medication can be part of the solution to the challenges in the healthcare sector: the aim is to boost efficiency and increase patient safety. With the aid of process optimizations in the field of medication management during and after in-patient treatment, hospital staff can free up more time for patient care. At the same time, the use of automation solutions demonstrably reduces the incidence of medication errors.

KUKA Medical Robotics offers a comprehensive portfolio of robotic components for integration into medical technology products: applications for KUKA robots range from X-ray imaging to radiation therapy, patient positioning and robot-based assistance systems for surgical procedures in operating rooms, or as a supporting partner in the field of rehabilitation.

Expansion of the software and digital services business

Production and intralogistics systems of the future will be digitally networked and increasingly smart. While value creation through hardware is declining, software is becoming more and more important. This goes hand in hand with the trend towards easy-to-use, intuitive automation with falling barriers to entry. By investing in value-added software and services and digitalizing its product range, KUKA is taking an important step toward ensuring profitable growth in the future.

At the same time, KUKA is using its digital customer portal to optimize its sales and service delivery methods with the goal of improving the customer experience across all regions. With its digital products, KUKA enables its customers to virtually simulate and digitally network machines and systems in the cloud, thereby increasing efficiency in various areas, such as predictive maintenance.

KUKA is laying another important foundation for the future by investing in SynQ warehouse management software from Swisslog and the KUKA AIVI master control system, which enables customers to respond flexibly and reliably to constantly changing production requirements.

3. Efficiency in practice

Anchoring sustainable, efficient (cost) structures in day-to-day business

After a general economic downturn in 2020, driven by the coronavirus pandemic, the order situation improved in 2021. Nevertheless, our focus for the coming financial year still remains on enhancing efficiency in all divisions. Digitalization initiatives, process efficiency and improvement, increasing the efficiency of the portfolio, and transparent performance management are important levers here.

Financial management system

Corporate management is based on the Group's strategy. The Group is managed on the basis of the key financial performance indicators derived from this. KUKA Group's financial targets are also key performance indicators (KPIs) that track the enterprise value of the company.

The most significant KPIs for KUKA Group are orders received, revenues, EBIT margin and free cash flow. For the segments subject to reporting requirements, orders received, revenues and EBIT margin are among the most important KPIs. The development of the financial targets is presented in the "Business performance" section and under "Financial position and performance". Operating earnings before interest and taxes (EBIT) are compared to sales revenues to determine the return on sales. This results in the EBIT margin. EBIT is determined for KUKA Group and the divisions. Free cash flow represents the funds available to pay the claims of equity and debt capital providers.

These key indicators are published and are included as criteria in KUKA Group's target and remuneration system. This ensures that all employees share the same goals.

An important early indicator of business performance for mechanical and systems engineering companies is the volume of orders received. Order backlog for a certain period is determined by subtracting sales revenues from orders received during that time. Order backlog is an indicator of the expected utilization of operational capacities in the coming months. Orders received and order backlog are determined for KUKA Group and for the divisions.

All key indicators are continuously tracked and reviewed by KUKA Group's management companies and its corporate accounting and controlling departments. Management analyzes any deviations from plan and decides on the necessary corrective actions required to achieve the targets.

Key performance indicators for KUKA Group over 5-year period

in € millions	2017	2018	2019	2020	2021
Orders received	3,614.3	3,305.3	3,190.7	2,792.2	3,565.3
Sales revenues	3,479.1	3,242.1	3,192.6	2,573.5	3,286.2
EBIT margin	3.0%	1.1%	1.5%	-4.4%	1.9%
Free cash flow	-135.7	-214.7	20.7	37.0	100.4

Achievement of targets

In March 2021, KUKA published its targets for the full year 2021. KUKA expected orders received to be higher than the prior-year level, in other words more than 10 percent, and sales to be slightly above the prior-year level, in other words less than 10 percent compared to the prior-year figure. An increased EBIT margin was forecast. The margin was expected to be in the positive low single-digit range. Furthermore, positive earnings after taxes were anticipated to exceed the prior-year level. A positive free cash flow was also forecast for 2021, although it was expected to be below the prior-year level due to the economic recovery and the resumption of investment activity. KUKA pointed to potential fluctuations due to the uncertain general conditions, particularly in connection with the fight against the pandemic, as well as ongoing geopolitical tensions.

For 2021 as a whole, KUKA Group anticipated a slight increase in demand. From a sector perspective, KUKA expected the sales markets outside the automotive industry to recover moderately and show increasing demand. In the automotive industry too, demand was forecast to improve slightly compared with 2020. KUKA expected the market environment to remain difficult amid ongoing uncertainties, as it was difficult to predict how countries would handle the fight against the pandemic, how long government support programs would last and how this would affect the labor market and society.

On November 23, 2021, the forecast for sales was increased in an ad hoc announcement. At around €3.1 billion, sales were expected to be more than 10 percent higher than the prior-year level.

2021 target values

in € millions	ACTUAL 2020	Target 2021 (March 2021 forecast)	Target 2021 (1st quarter forecast)	Target 2021 (2nd quarter forecast)	Target 2021 (3rd quarter forecast)	Ad hoc announcement Nov. 23, 2021
Orders received	2,792.2	Above prior-year level[1]	Above prior-year level[1]	Above prior-year level[1]	Above prior-year level[1]	
Sales revenues	2,573.5	Slightly above prior-year level[1]	Slightly above prior-year level[1]	Slightly above prior-year level[1]	Slightly above prior-year level[1]	Around €3.1 billion (above prior-year level)
EBIT margin	-4.4%	Positive/increasing[1]	Positive/increasing[1]	Positive/increasing[1]	Positive/increasing[1]	
Earnings after taxes	-94.6	Positive/above prior-year level[1]	Positive/above prior-year level[1]	Positive/above prior-year level[1]	Positive/above prior-year level[1]	
Free cash flow	37.0	Positive/below prior-year level[1]	Positive/below prior-year level[1]	Positive/below prior-year level[1]	Positive/below prior-year level[1]	

[1] Definitions:
Slightly above/below prior-year level: absolute change compared to prior year < ±10%
Above/below prior-year level: absolute change compared to prior year ≧ ±10%

The target figures published in March 2021, including the forecast increase in sales in the ad hoc announcement, were achieved. The Group generated orders received totaling €3,565.3 million (2020: €2,792.2 million), up 27.7 percent on the previous year. The sales revenues of €3,286.2 million (2020: €2,573.5 million) were 27.7 percent higher than in the previous year. The EBIT margin rose to 1.9 percent after -4.4 percent in the previous year. The margin was thus in the positive low single-digit range. For detailed information on the development of the segments, please refer to "Business performance".

Earnings after taxes amounted to €49.4 million and thus significantly exceeded the previous year's level (2020: –€94.6 million).

At the end of fiscal 2021, free cash flow amounted to €100.4 million. Contrary to the forecast, free cash flow was therefore above and not below the prior-year level (2020: €37.0 million). The positive trend in the automotive sector, particularly in the USA, has led to a high level of projects with automotive manufacturers in our Systems segment. During the processing of these projects, interim invoices are typically issued to customers when defined milestones are reached. At the end of the year, some of our customers, in the management of their own year-end positions, settled invoices for which we had not expected the corresponding payment to be received until 2022. This resulted in a free cash flow for 2021 that was significantly above what we had planned. For detailed information, please refer to the chapter "Financial position and performance".

Research and development

The area of research and development (R&D) is of crucial importance for the sustainable and long-term success of KUKA. Research and development expenditure amounted to €159.6 million in 2021, lower than the value for the previous year (2020: €178.0 million).

KUKA's research and development activities are based on market needs, customer requirements and expected trends. KUKA's Corporate Research is active on a Group-wide scale and develops technologies for the Group companies. It collaborates closely with universities and institutes worldwide. Through its research and development activities, KUKA is able to open up new areas of application and further advance technological progress.

In the year under review, KUKA Group filed a total of 41 patent and utility model applications and 314 patents and utility models were granted. The focus was on innovations in the area of simple and ergonomic use and low-cost robots, as well as on applications for current and future key technologies in industrial production, logistics, mobility and human-robot collaboration, as well as new products for focused growth markets such as Asia.

The research and development activities have led to the following results:

Automation for all: KUKA showcases new operating system iiQKA.OS at the digital Hannover Messe 2021*

Easy access to robotics – KUKA is pursuing this ambitious goal and presented a preview with the first elements of a new operating system in April. The iiQKA.OS operating system will be the basis of an entire iiQKA ecosystem, provide access to programs, apps, services or accessories, and be easy to install, operate and expand. The sensitive LBR iisy cobot will be the first robot to run exclusively with the new operating system – supported by the iiQKA ecosystem and in combination with the KR C5 micro robot controller and the new smartPAD pro as the operator control unit.

In this way, KUKA aims not only to facilitate access to robotics for newcomers, but also to further develop its existing customer base. The goal of this "Mission 2030": simple operator control and intuitive handling of automation solutions. In the long term, every KUKA product is to be equipped with the new operating system. The aim is to make automation feasible in industries and applications where there have so far been few robots.

KUKA iiQoT*

The KUKA iiQoT software platform is designed to facilitate data-based automation for companies. In the platform name, ii stands for industrial intelligence, iQ for intelligent capability and IIoT for Industrial Internet of Things. For this purpose, the software leverages the advantages of the Industrial Internet of Things (IIoT): it bundles the condition data of a complete robot fleet transparently and clearly in one platform – from the hardware to the software and on to the controller. Instead of simply visualizing raw data, KUKA iiQoT delivers supplementary orientation parameters, enabling messages to be easily interpreted and faults efficiently rectified.

The IIoT platform is intended to pave the way for the Smart Factory. Important functions include systems management, maintenance, fault detection as well as condition monitoring. If required, KUKA iiQoT users can log in to an individual robot in the selected line and cell from any location and view all parameters in real time – even accessing historical data. Several function modules work together optimally to achieve this.

KUKA iiQoT is suitable for small and large robot fleets. As software as a service, the cloud solution developed by KUKA IoT subsidiary Device Insight offers maximum flexibility and scalability. Robots can be added to or removed from the fleet as desired. Access to the latest version at all times without any hardware costs. In the future, it is planned for KUKA iiQoT to support further infrastructures, enabling it to be seamlessly integrated into the customer environment.

KUKA.Sim 4.0 simulation software*

The new version KUKA.Sim 4.0 offers greater functionality and is thus less time-consuming for users.

Besides importing CAD data, the new version enables easy offline programming of the robot and fast cycle time analysis. In addition, safety spaces can be configured graphically in 3D and the stopping behavior of the robots can be simulated.

KUKA.Sim 4.0 simplifies the planning of robot applications in many industries. The new KUKA Robot Language (KRL) editor provides expert and beginner user views for programming the robot. A visual program tree makes programming possible even without KRL knowledge, for example. One hundred percent data consistency also ensures that the virtual controller and the real controller work with the same data. The software now also supports the new KR SCARA and KR DELTA robots from KUKA.

The KR CYBERTECH nano ARC*

The KR CYBERTECH nano ARC product family is outstandingly agile, extremely fast and even more precise than its predecessors in continuous-path applications. The upgraded 50-millimeter KUKA hollow wrist reduces main axis motion, allowing short cycle times combined with utmost precision in motion. This makes the KR CYBERTECH nano ARC hollow-wrist robots predestined experts for applications where maximum precision and path accuracy are required. The series is characterized by its long service life and the lowest maintenance requirements in the low payload category. For users, the total cost of ownership (TCO) is reduced to a minimum. Spare parts are available for up to 25 years.

Thanks to the small footprint and diverse installation options, the hollow-wrist robots are also suitable for compact cells, complex tasks and challenging process chains. The innovative K-PIPE-ES energy supply concept provides additional flexibility. Additional axes and the new generation of positioners can be added to the configuration more easily. The KR CYBERTECH nano series of the latest generation includes not only the hollow-wrist robots of the KR CYBERTECH nano ARC family (ARC focus), but also in-line wrist variants (handling focus, also suitable for CP applications). The digital KUKA.Motion Modes allow the performance of the robots to be adapted to different tasks via the controller. The product series also features – as standard – protection against dust and water in accordance with IP 54 for the hollow-wrist robots and even IP 65/67 (main axes/wrist axes) for the in-line wrist robots.

The new KR DELTA robot*

Since April 2021, the new KR DELTA robot, a robot type in the low payload class, has rounded out the KUKA product family. With its parallel kinematic system and small footprint, the KR DELTA robot is particularly suitable for precise pick-and-place tasks. Thanks to its stainless steel body, it is suited to operation in hygienically sensitive areas, such as in direct contact with food or medicines. Furthermore, the KR DELTA robot is designed to require minimal maintenance: the gear unit is encapsulated and the ball joints are made of a self-lubricating material.

The parallel arm robot can be installed on the ceiling and stands out with a high degree of accuracy and a cycle time of 0.5 seconds (in the small Adept cycle) with a payload of 1 kilogram. With a reach of 1200 millimeters and a payload capacity of up to 6 kilograms, the KR DELTA robot is suitable for sorting and packaging tasks.

The KR DELTA hygiene robot is temperature- and corrosion-resistant and is easy to clean and disinfect. The simplified processes help companies to reduce downtimes that are otherwise necessary for cleaning and maintenance. Furthermore, right from its market launch, the KR DELTA hygiene robot will be TÜV-certified for compliance with the requirements of the US Food and Drug Administration and the German Food and Feed Code.

The small robot is controlled by the KR C5 micro – the latest control technology from KUKA. To enable it to perform its tasks even more efficiently in terms of resources, the KR DELTA can switch between different production scenarios, such as seasonal packaging variants. It is thus suitable for the consumer goods industry, especially for fast-moving consumer goods. For this, the hygiene robot uses the KUKA.PickControl software package with conveyor tracking and integrated image processing. In combination with a camera and the KUKA.VisionTech software, which recognizes objects even in unstructured environments, even more flexible applications can be defined for the KR DELTA robot. These range from sorting to loading of different objects.

Hand-guiding with KUKA ready2_pilot*

One of the main obstacles preventing robots from becoming more widespread is frequently the aspect of operator control. Potential users believe that they would have to invest heavily in training and personnel and thus frequently reject robotic solutions for this reason. The solution to this challenge is called ready2_pilot from KUKA. In line with the easy programming principle, the solution is aimed primarily at companies without particular experience in robot programming.

The employee guides the robot manually along a workpiece using the Commander, a type of 6D mouse, and "shows" it what it is supposed to do. The motions are converted to commands via the wireless connection to the teach pendant; these commands can then be freely modified or added to as required. In this way, tasks can be recorded very quickly by simply moving your hand.

The tool used for this is the Commander, a control head that is similar to the 6D mouse on the KUKA smartPAD, that can be moved in all directions and also recognizes forward and backward commands. The Commander can be attached directly to the robot in just a few steps and responds very sensitively. This allows work steps to be performed directly on the workpiece. The major advantage: even people with little experience quickly get used to the robot in this way and use it for simple tasks without the need for in-depth training or certification. Furthermore, the Commander is multifunctional. It can be used equally with all robot types, so the investment pays for itself very quickly.

KUKA.ProcessScreen*

For the first time, the KUKA.ProcessScreen software makes it possible to record the entire processing operation in production in real time. All information about the process that is available to the robot controller via the usual interfaces can – combined with the relevant robot data – be configured and thus visualized, monitored and documented.

The documentation is seamless and, thanks to web-based technology, visualization is possible on almost any end device. Through comparison with individually configurable limit values, the software provides early detection of deviations, thus enabling rapid intervention that can be automated.

A single software package is required, with a consistent operating concept and the same data content for all processes and process equipment – including important robot parameters. The standardized configuration enables simple operation and monitoring, making processes much more transparent. Production is stable – with consistently high quality. The flexible configuration of monitoring functions, tolerance ranges and error strategies allows customers to tailor KUKA.ProcessScreen to their individual processes and continuously optimize their workflows.

KMP 600-S diffDrive*

The KMP 600-S diffDrive expands KUKA's portfolio of mobile platforms. At up to two meters per second, the KMP 600-S diffDrive is fast and, thanks to laser scanners and 3D object detection, safe in equal measure.

The requirements for mobile solutions in industry are extremely high. Thanks to the KUKA KMP 600-S diffDrive mobile platform, there is now a new automated guided vehicle system that provides high-speed support for production intralogistics with a payload of up to 600 kilograms. At the same time, the KMP 600-S diffDrive is ideally equipped for the tough everyday environment of industrial production: its IP 54 design enables it to always work reliably even under adverse conditions – such as where water spray and dust are present.

All KUKA mobile platforms guarantee employees maximum freedom of movement without the need for safety fencing. The KMP 600-S diffDrive is no exception. The KMP 600-S diffDrive can link a wide variety of workstations, thus providing precisely the load handling options the customer requires.

3D virtual showroom from KUKA*

Look over the robot's shoulder as it provides support as a component of a medical device during the treatment of a patient – this is possible immediately in the new 3D virtual showroom from KUKA. Everything is modeled after an operating room in which three animated robots are located. With just a few clicks – or using an Android smartphone – it is possible to move through the virtual environment and get acquainted with various applications. For example, an animated LBR Med during a biopsy or how an imaging system equipped with a KR QUANTEC captures images of a patient. In addition to the animated applications, further information and videos about possible applications, USPs and references from KUKA partners are available on the robots. The 3D virtual showroom shows an impressive selection of the possible application areas in which the KUKA team can provide support. In addition to robots for holding heavy medical equipment or carrying patients, the Medical Robotics division also offers a collaborative, sensitive robot: the LBR Med. It is specially certified for use in medical devices. Once KUKA customers have integrated the robot into their medical devices, the robotic system is used by medical professionals, for example, as an assistant in diagnostics, surgery and therapy. With more than 20 years of experience in medical technology and automation expertise, KUKA Medical Robotics supports the integration and use of robotic components in your medical device.

New cell for friction stir welding*

In addition to robots, software and systems, KUKA also offers contract manufacturing for special welding processes and components in any batch size. This is why the automation specialist has now expanded its own machine pool with an innovative welding cell for friction stir welding: the cell4_FSW (Friction Stir Welding). Friction stir welding primarily opens up new possibilities for joining materials that were previously only considered weldable to a limited extent: for example, high-strength aluminum and copper alloys. The cell4_FSW offers maximum flexibility for contract manufacturing and can also be individually configured for companies investing in a cell of their own.

The cell4_FSW expands the KUKA portfolio in the area of welding, which already encompassed an extensive machine pool for Magnetarc welding and rotational friction welding – for use in prototype and series production in any batch size.

Friction stir welding is an ideal joining process for aluminum and copper materials: it can be used to weld a butt joint or a lap joint. A rotating tool (pin) is guided along the contact surfaces of the workpieces to be joined. The heat required for welding is generated by friction. Here, the material along the weld seam is only plasticized and not liquefied. An enormous advantage when used with aluminum materials: the seams are free of pores and cracks and are thus pressure-tight and vacuum-tight.

Artificial Intelligence Challenge: Belgian research team wins KUKA Innovation Award *

An international jury selected the winner of the KUKA Innovation Award at Hannover Messe 2021. This year, the KUKA Innovation Award focused on artificial intelligence.

After the preliminary round, five international teams reached the final of the competition, which was broadcast entirely digitally due to the coronavirus pandemic. To help them implement their ideas, the finalists were equipped with KUKA robots free of charge and accompanied by experienced KUKA experts throughout the competition. The teams presented their applications digitally at the virtual Hannover Messe. The prize was awarded to the winners in a virtual ceremony.

Artificial intelligence for the automation of challenging bimanual tasks – with this idea, a team of researchers from Leuven, Belgium, won the €20,000 Innovation Award.

The goal of the Chorrobot team from Belgium's Katholieke Universiteit Leuven and Flanders Make@KU Leuven is to leverage artificial intelligence in order to enhance the productivity of car manufacturers as well as small and medium-sized enterprises by facilitating and expediting the deployment of bimanual robot manipulation tasks.

The concept enables users without extensive expertise in robotics to demonstrate some aspects of the task and to intuitively specify other aspects via a graphical user interface. This approach facilitates the commissioning of challenging bimanual tasks, such as assembly operations that involve non-rigid and non-fixed elements, as well as bimanual inspection operations in unstructured environments.

* Not verified by auditors

Procurement

A robust supply chain with efficient purchasing and procurement management is essential for the successful execution of customer orders. The utmost priority is given here to ensuring the required quality at optimum cost and to on-time implementation. The processes and responsibilities pertaining to supply chain management are clearly defined at KUKA. By structuring the overall business into individual business segments, each with its own responsible management, segment-specific requirements can be implemented within the associated functions, while maintaining close coordination of the specialist departments.

The expansion of our suppliers' process integration carries the close relationships down into the supply network. Stable and reliably functioning customer-supplier relationships combined with great flexibility are of great importance to us. This has become even more pronounced in recent months as a result of drastic changes on the procurement market, triggered on the one hand by the outbreak of the coronavirus pandemic and meanwhile intensified by developments on the commodity markets, for instance.

The ongoing global supply bottlenecks, making it difficult in some cases to calculate delivery times for intermediate products and materials, have presented procurement departments around the world with major challenges. In the Robotics segment, for example, supplies were not interrupted thanks to the flexibilization of ordering and delivery concepts, our in-house manufacturing capabilities in Hungary and Augsburg, and an extensive second or multiple sourcing strategy. This enabled continuous robot production in Augsburg and the processing of most customer orders within the standard delivery times.

A further challenge was the sharp rise in commodity prices. Steel prices have almost tripled from their low point in 2020. At Swisslog, it was a challenge, particularly in the project business, to take the continual increases into account accordingly in cost estimations for quotations and in the drafting of contracts with end customers and suppliers.

The global increase in transport volumes has led to a shortage of available freight capacity. This has resulted in price increases, some considerable, and longer transport times, making on-time delivery both by suppliers to our production plants, and of our products to our customers, more difficult.

At KUKA, the continuous monitoring of delivery reliability and delivery availability is a cross-departmental focus. The regular communication and close cooperation between the segments enable a high degree of flexibility throughout the company due to the ability to take decisions quickly in extreme situations. In the area of project business, optimizations with regard to structure, system and processes were investigated, evaluated and prepared for further implementation. The identified improvements will ensure that processes are even faster and more efficient in the future, which will have a positive impact on internal throughput times and external interfaces.

Economic report

Macroeconomic and industry conditions

Global upswing held back by global supply bottlenecks, high infection rates and high inflation rates

Since the start of the year, the global economy has recovered from the sharp decline caused by the coronavirus pandemic. This recovery has seen regional differences, however, as countries face varying challenges. According to its December 2021 forecast, the Organization for Economic Cooperation and Development (OECD) expects global growth of 5.6% in 2021. Positive factors included government support programs, vaccination progress and the resumption of numerous economic activities. In countries with low infection rates or countries that were able to ease their restrictions due to lower numbers of cases, growth rose sharply in the second half of the year. Nevertheless, production and employment shortfalls remained in many countries, particularly in emerging and developing economies with low vaccination rates. The main concerns for future growth prospects are rising rates of coronavirus infections, higher inflation and global supply difficulties.

In the euro zone as a whole, the economy continued to lose momentum over the course of the year, mainly due to the shortage of intermediate products in the industrial sector and the rise in inflation. Driven by higher prices for raw materials and energy, supply bottlenecks and stronger consumer demand, inflation has increased worldwide in recent months. In the euro zone, the inflation rate in September 2021 was 3.4%. For 2021, the European Commission expected a price increase of 2.4%. By comparison, the US inflation rate was 6.2% in October, thus even reaching a 30-year high. There were several reasons for the high inflation rates. Part of the increase in inflation was due to base effects. The difference was comparatively high as a result of the lower prices in the previous year. At just 0.5%, inflation in Germany in 2020 was as low as it had last been in 2009. In addition, the reduction in value-added tax in 2020 was also responsible for stimulating consumption, which had collapsed during the pandemic.

In its December outlook, the OECD expected growth of 5.6% in the USA for 2021 and a growth rate of 8.1% in China. This puts both countries above the forecast global average. For the German economy, the OECD revised its forecast and lowered the growth outlook from 3.3% previously (OECD Economic Outlook May 2021) to 2.9%. This was due primarily to ongoing supply difficulties in industry. The automotive industry, for example, an important customer group for KUKA, was hit particularly hard by the supply bottlenecks and logistics difficulties. Capacity utilization also fell in other industries, however, as a result of these difficulties. As a result, the mood in the German economy dampened and the ifo Business Climate Index of the Institute for Economic Research (ifo) declined further in the second half of the year. This is regarded as an early indicator of economic development in Germany. In October 2021, the index fell for the fourth time in succession to just 97.7 points. As recently as June 2021, the index stood at 101.8 points.

In order to ensure a recovery that is sustainable and as comprehensive as possible, however, the OECD considers various measures to be necessary. Increased international efforts will be required, for example, to provide low-income countries with the resources they need to vaccinate their populations for their own benefit and that of the world in general.

Worldwide supply bottlenecks impacted growth of automotive markets

Developments on the international automotive markets in 2021 were once again determined by the course of the coronavirus pandemic. While all major markets achieved double-digit year-on-year growth in the first half of 2021, this increase was due primarily to low prior-year figures as a result of the declines in sales during the lockdown in the spring of 2020. In the European market, new registrations increased by 27% in the first half of 2021, but sales were around 25% below 2019 levels. Closed car showrooms, incentive programs expiring at the turn of the year, ongoing lockdowns and also the supply bottlenecks for semiconductors prevented stronger growth. In China, passenger car sales increased by 27% in the first half of 2021. In the USA, light vehicle sales grew by 29% in the first half of 2021. Supply bottlenecks for semiconductors impacted automotive production worldwide and prevented a rapid market recovery. The supply bottlenecks were also the reason why German manufacturers were unable to produce more. This resulted in production shortfalls at the same time as high demand. In the first ten months, the number of passenger cars produced in Germany decreased by 8%. In China, automotive sales declined for the fifth consecutive month in September 2021 due to the shortage of semiconductor components. In several countries in Southeast Asia, factories have had to stop production on account of the increase in coronavirus cases. Additionally, global supply chains were impacted due to a shortage of shipping containers. According to the Automotive Performance Report of October 26, 2021 from the Center of Automotive Management (CAM), manufacturers could have sold about 10 million more vehicles worldwide. The report forecasts global vehicle sales to be around 12% lower than in 2019. Taking the pre-crisis level as the benchmark, the cumulative values from Europe, the USA, China, Japan, India, Brazil and Russia are 8% below the first half of 2019.

High demand in mechanical and systems engineering

According to the VDMA's November 2021 report "Maschinenbau Konjunktur International", companies have stepped up their investments again as the economic environment improved, reactivating postponed investment plans. In the first half of the year, the machinery industry recovered, in some cases with double-digit growth rates. Compared with the three-month period before the pandemic from December 2019 to February 2020, machinery production had already exceeded pre-pandemic levels in many countries. However, the materials shortage and supply bottlenecks posed challenges for companies in the mechanical and systems engineering sector. Since the beginning of the year, industrial production in Germany has been constrained by supply bottlenecks for key intermediate goods and raw materials. In a VDMA flash survey conducted between August 31, 2021 and September 2, 2021, 81% of the approximately 600 companies responding reported noticeable or even severe disruptions to their supply chain. This mainly affected electrical and electronic components. As a result, more and more companies are planning to transform their procurement and distribution, for example by means of increased inventories, alternative supply routes, and looking for additional suppliers.

Companies saw the shortage of skilled workers as a further serious problem with regard to ramping up production. The transformation resulting from increasing digitalization, the development of climate-friendly technologies and the mobility revolution requires well-trained personnel. On account of demographic change, many companies will be looking for skilled workers in particular over the next few years. According to the VDMA, the majority of mechanical engineering companies are planning to increase their workforce and create additional jobs. New jobs will be created as a result of technological change in the coming years, and, at the same time, personnel reaching retirement age will need to be replaced. The looming shortage of personnel calls for flexible solutions that, above all, must not hold up progress.

According to the Oxford Economics baseline forecasts of September 2021, mechanical engineering sales in Germany are expected to grow by 7% year on year in 2021. An increase of 14% is predicted for China and 10% for the USA.

Furthermore, the VDMA estimates that companies will produce around 10% more in 2021 than in the previous year. While high demand could allow the export-oriented industry to grow even faster, material shortages and supply bottlenecks are preventing a rapid recovery. They also represent the greatest obstacle to the business activities of mechanical and systems engineering companies in the important foreign markets.

European machinery manufacturers are hoping for a boost in investment from the EU's 750 billion euro development fund. The fund supports investment projects that have been postponed due to the pandemic. The priorities of the funding are digitalization, environmentally compatible mobility, green energy and industrial clusters.

Flexible production and logistics solutions are gaining in importance

In September 2021, the International Federation of Robotics (IFR) published the full-year figures for global robot sales in 2020. These figures indicated that around 384,000 robots were installed worldwide in 2020. This corresponds to slight growth of 0.5% year on year. The automotive industry was up 21% on the previous year. The main growth driver in 2020 was the electronics industry. It grew by 29% year on year, overtaking the automotive industry as the largest customer group worldwide. Robot sales to the metalworking and mechanical engineering industries increased by 11%.

Demand for robots has risen continuously since 2010. The number of robots installed worldwide tripled within ten years. Technological innovations and the global trend toward automation caused the number of robots installed worldwide to increase from around 121,585 robots in 2010 to 383,545 robots in 2020. The compound annual growth rate (CAGR) was thus 12%.

However, the coronavirus pandemic poses challenges for many companies. Previous production methods and supply chains have been put to the test, and manufacturers have had to adjust their production volumes quickly due to high fluctuations in demand. The pandemic forced manufacturing companies to introduce new shift models to protect their employees from infection by, for example, requiring minimum distances to be observed. All of this created numerous challenges in the production environment. In order to meet the heightened requirements, some companies opted to integrate robots in their production. Many of them were using robots in their production operations for the first time. Demand for robot-based automation has thus risen again since the start of 2021 after a difficult year in 2020. The growth of so-called cobots – robots that are allowed to collaborate with humans in the same workspace without safeguards – also developed positively. With cobots, conventional safety precautions are no longer required. This means that less space is required than for industrial robots that work behind safety fences. They can be installed directly in an existing production environment and their special properties open up new market fields. Companies use cobots not only to improve their product quality and boost efficiency, but also, due to their sensitive characteristics, to enable them to meet the requirements to maintain minimum distancing in production.

Business performance

KUKA Group

The recovery of the global economy had a positive impact on the business development of KUKA Group's segments. Customers once again invested more in automation solutions and caught up with postponed investments. In KUKA Group, the volume of orders received rose by 27.7% from €2,792.2 million to €3,565.3 million in the year under review. It was the second-highest order volume in KUKA's corporate history. KUKA also achieved the second-highest sales revenues. The sales volume increased by 27.7% to €3,286.2 million (2020: €2,573.5 million). The book-to-bill ratio of 1.08 in fiscal 2021 was on a par with the previous year (2020: 1.08). The order backlog grew by 16.0% from €1,992.6 million as at December 31, 2020 to €2,311.9 million as at December 31, 2021. However, global supply difficulties slowed down the positive developments, particularly from the second half of the year onwards. The consequences were increased material and logistics costs due to availability restrictions. Despite these challenges, EBIT rose to €61.8 million (2020: –€113.2 million). The EBIT margin increased to 1.9% (2020: -4.4%).

Systems

The Systems business segment saw its volume of orders received rise by 37.3% from €715.3 million in 2020 to €981.8 million in the year under review. Major customer orders were won in the Battery segment and in the North America region, among others. In Europe, the order situation remained difficult. The sales revenues of €978.3 million were significantly up on the previous year's level of €671.6 million. The strong growth of sales by 45.7% was achieved despite the global supply chain difficulties and resulted predominantly from increased demand in North America. At 1.00, the book-to-bill ratio was at a comparable level to the prior-year period (2020: 1.07). The order backlog of €597.4 million as at December 31, 2021 was up slightly year on year (December 31, 2020: €591.0 million). EBIT rose from –€37.4 million in 2020 to €31.1 million in the year under review. This significant improvement was mainly due to higher volumes, increased capacity utilization and improved project management. The EBIT margin rose from -5.6% to 3.2% in the current fiscal year.

Robotics

Orders received in the Robotics segment increased sharply in fiscal 2021 to €1,081.3 million and were thus 20.0% higher than the previous year's level (2020: €901.3 million). With the economic recovery, customers from both the automotive and non-automotive sectors once again invested more heavily in robotic automation. The higher volume of orders received led to an increase in sales revenues. At €1,020.7 million, the figure was up 13.5% on the previous year (2020: €899.2 million). The book-to-bill ratio rose to 1.06 (2020: 1.00). The order backlog totaled €323.3 million as at December 31, 2021 (December 31, 2020: €266.3 million). EBIT increased sharply to €61.8 million after –€3.9 million in the previous year. One factor that had a positive effect was the improved project management. On the other hand, higher material and logistics costs weighed on earnings. The EBIT margin of 6.1% was well above the previous year's figure of -0.4%.

Swisslog

The Swisslog segment achieved a significant increase in orders received. After €643.9 million in fiscal 2020, the order volume increased by 16.5% to €749.8 million. The trend towards automated logistics solutions had a positive impact. This led to increased demand, particularly in the e-commerce sector. Automation solutions can offer approaches particularly for counteracting challenges such as the increasing shortage of skilled workers. The development in order levels led to a 23.4% increase in sales revenues to €650.9 million, compared with €527.7 million in the previous year. The book-to-bill ratio stood at 1.15 (2020: 1.22). The order backlog increased to €842.1 million as at December 31, 2021 after €726.6 million as at December 31, 2020. The high sales volume and improved cost management led to a significant growth of EBIT to €19.0 million, after €0.8 million in the previous year. The EBIT margin increased to 2.9% from 0.1% in 2020.

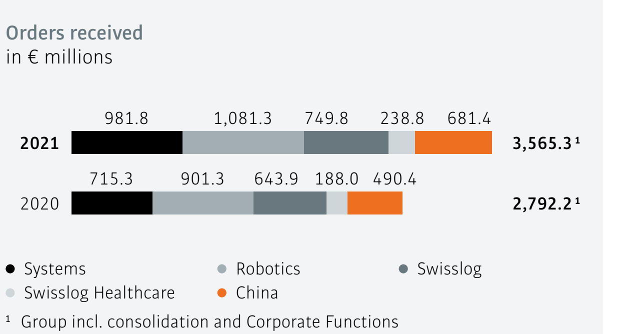
Swisslog Healthcare

The volume of orders received at Swisslog Healthcare was significantly above the previous year's level, increasing by 27.0% to €238.8 million in 2021 (2020: €188.0 million). Swisslog Healthcare benefited from increased customer demand. Following the slump caused by the coronavirus crisis, demand in the healthcare sector picked up again strongly, particularly in the first half of 2021. This also included catch-up effects from postponements of projects due to coronavirus. While access to hospitals was restricted at the beginning of the coronavirus crisis, access restrictions were relaxed again in the year under review. Sales revenues developed at a stable level of €205.0 million (2020: €204.2 million). The book-to-bill ratio rose to 1.16 (2020: 0.92). The order backlog of €218.3 million as at December 31, 2021 was up considerably year on year (December 31, 2020: €176.9 million). EBIT rose to €3.8 million, after €3.0 million in the previous year. This corresponds to an EBIT margin of 1.8% (2020: 1.5%). The improvement is attributable to the optimizations in process and project management.

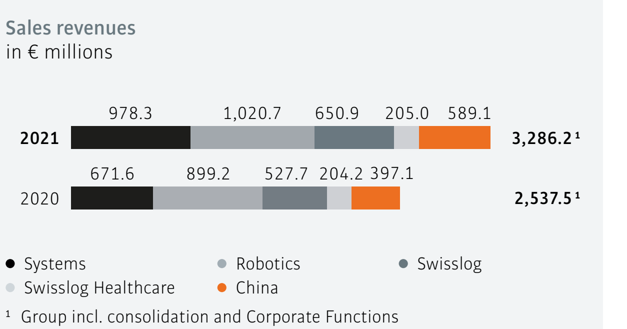
China

The China segment achieved a significant increase of 39.0% in orders received in 2021. The order volume rose to €681.4 million after €490.4 million in the previous year. The recovery of the Chinese robotics market improved business development and led to increased demand, particularly in the electronics and 3C markets. However, the automotive market, too, developed positively due to the greater demand for electric vehicles. All this was also reflected in sales. The sales volume increased by 48.4% to €589.1 million in the year under review (2020: €397.1 million). The book-to-bill ratio fell to 1.16 in 2021 (2020: 1.23). The order backlog grew from €270.6 million as at December 31, 2020 to €381.8 million as at December 31, 2021. Despite the supply difficulties, especially in the second half of the year, EBIT increased to €10.2 million in the past fiscal year (2020: –€4.7 million). The high demand for automation solutions had a positive effect, as did investment grants. Furthermore, higher value adjustments on receivables were included compared with the previous year. Overall, the EBIT margin was 1.7% (2020: -1.2%).

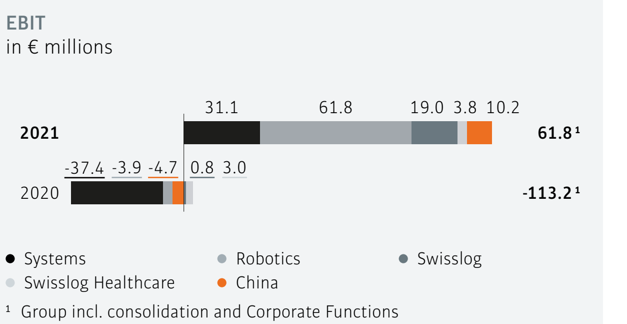
The key figures for the individual business segments are shown below:



¹ Group incl. consolidation and Corporate Functions



¹ Group incl. consolidation and Corporate Functions



¹ Group incl. consolidation and Corporate Functions

Key figures – Systems

in € millions	2020	2021
Orders received	715.3	981.8
Order backlog	591.0	597.4
Sales revenues	671.6	978.3
EBIT	-37.4	31.1
in % of revenues	-5.6	3.2
in % of capital employed (ROCE)	-13.2	9.8
EBITDA	-18.1	48.2
in % of revenues	-2.7	4.9
Capital employed	284.3	318.5
Employees (Dec. 31)	3,033	3,032

Key figures – Swisslog

in € millions	2020	2021
Orders received	643.9	749.8
Order backlog	726.6	842.1
Sales revenues	527.7	650.9
EBIT	0.8	19.0
in % of revenues	0.1	2.9
in % of capital employed (ROCE)	0.6	15.3
EBITDA	19.1	36.5
in % of revenues	3.6	5.6
Capital employed	136.0	124.2
Employees (Dec. 31)	2,215	2,367

Key figures – China

in € millions	2020	2021
Orders received	490.4	681.4
Order backlog	270.6	381.8
Sales revenues	397.1	589.1
EBIT	-4.7	10.2
in % of revenues	-1.2	1.7
in % of capital employed (ROCE)	-3.1	8.3
EBITDA	7.8	24.0
in % of revenues	2.0	4.1
Capital employed	151.4	123.2
Employees (Dec. 31)	1,516	1,713

Key figures – Robotics

in € millions	2020	2021
Orders received	901.3	1,081.3
Order backlog	266.3	323.3
Sales revenues	899.2	1,020.7
EBIT	-3.9	61.8
in % of revenues	-0.4	6.1
in % of capital employed (ROCE)	-1.0	16.6
EBITDA	46.4	105.4
in % of revenues	5.2	10.3
Capital employed	407.7	372.5
Employees (Dec. 31)	5,197	5,290

Key figures – Swisslog Healthcare

in € millions	2020	2021
Orders received	188.0	238.8
Order backlog	176.9	218.3
Sales revenues	204.2	205.0
EBIT	3.0	3.8
in % of revenues	1.5	1.8
in % of capital employed (ROCE)	1.9	2.4
EBITDA	16.6	16.5
in % of revenues	8.1	8.1
Capital employed	163.6	157.8
Employees (Dec. 31)	1,068	1,053

Financial position and performance

Summary

The recovery of the global economy had a positive impact on the business development of KUKA Group. Customers once again invested more in automation solutions and caught up with postponed investments. Moreover, the introduction of appropriate safety concepts and hygiene regulations at customers' premises enabled the pandemic-related access restrictions for suppliers to be eased again. This meant that KUKA was once again able to process orders at customers' premises. In the second half of the year, business performance was impacted by global supply difficulties and higher commodity prices. Despite these challenges, KUKA closed the fiscal year successfully. KUKA achieved double-digit growth rates year on year in both orders received and sales revenues. At €100.4 million, free cash flow even reached a new record level in KUKA's history.

Earnings

KUKA Group posted orders received amounting to €3,565.3 million in the year under review – a significant increase of 27.7% over the previous year's level (2020: €2,792.2 million). The recovery of the overall economic situation after more than a year of the coronavirus pandemic also had a positive impact on sales revenues in the past fiscal year. At €3,286.2 million, these were up 27.7% on the previous year (2020: €2,573.5 million) and were thus not only at pre-crisis levels but also above the target of €3.1 billion. KUKA thus achieved the second-highest figures in the company's history for both sales revenues and orders received. The order backlog rose by 16.0% from €1,992.6 million as at December 31, 2020 to €2,311.9 million as at December 31, 2021. The high order backlog also promises good capacity utilization in subsequent periods.

In KUKA Group, earnings before interest and taxes (EBIT) rose to €61.8 million in the year under review (2020: –€113.2 million). This corresponds to an EBIT margin of 1.9% after -4.4% in the previous year. For further details please refer to "Business performance".

Above all, the improved economic situation, but also internal improvements through, for example, efficiency enhancements, had a positive impact on business development, enabling KUKA to close fiscal 2021 successfully.

in € millions	2017	2018	2019	2020	2021
Orders received	3,614.3	3,305.3	3,190.7	2,792.2	3,565.3
Order backlog	2,157.9	2,055.7	1,967.4	1,992.6	2,311.9
Sales revenues	3,479.1	3,242.1	3,192.6	2,573.5	3,286.2
EBIT	102.7	34.3	47.8	-113.2	61.8
in % of revenues	3.0	1.1	1.5	-4.4	1.9
in % of capital employed (ROCE)	10.9	2.9	3.5	-8.6	5.0
EBITDA	180.2	121.2	176.5	33.2	202.0
in % of revenues	5.2	3.7	5.5	1.3	6.1
(Average) capital employed	950.4	1,185.0	1,374.3	1,321.1	1,245.5
Employees (Dec. 31) [1]	14,256	14,235	14,014	13,700	14,128

[1] Figures for employees are based on the full-time equivalent throughout the annual report.

The KUKA Business Organization (KBO) segment structure was further optimized at the beginning of fiscal 2021. Certain Chinese companies were previously reported both in the China segment and in the Swisslog or Swisslog Healthcare segment. As of the current fiscal year, this double reporting no longer applies and the business activities of the Chinese companies are presented exclusively in the China segment. In addition, a Swisslog holding company is no longer reported in the Corporate Functions segment but in the Swisslog segment. This results in changes to some key figures in the individual segments and in the reconciliation to the Group, but has no effect on the Group's key performance indicators. The comparative figures for fiscal 2020 have been adjusted accordingly.

For explanatory comments on the individual segments, please refer to the section on business performance.

The gross earnings generated increased by 38.2% or €192.6 million to €696.7 million (2020: €504.1 million). This corresponds to a gross margin of 21.2% after 19.6% in fiscal 2020. The significantly higher volume of business had a positive impact on gross earnings and is also reflected in the business segments. Thus, gross margins increased in the business segments Systems (2021: 9.2%; 2020: 2.9%), Robotics (2021: 33.1%; 2020: 31.7%), China (2021: 14.9%; 2020: 11.7%) and Swisslog Healthcare (2021: 36.0%; 2020: 34.8%), while a slight decline was recorded in the Swisslog business segment (2021: 17.3%; 2020: 17.8%).

KUKA Group's functional costs, comprising the costs for administration, sales and research & development, rose by €29.8 million to €641.2 million in fiscal 2021 (2020: €611.4 million). As a result of the higher sales volume on the one hand and the optimized cost structure on the other, the ratio of structural costs to sales fell to 19.5% in 2021 from 23.8% in 2020.

Selling expenses increased by €28.0 million, or 10.9%, from €256.9 million in fiscal 2020 to €284.9 million in fiscal 2021. As at the 2021 balance sheet date, KUKA had 1,529 sales employees worldwide – a slight increase of 11 employees on the previous year (2020: 1,518 employees). Customer orientation always remains in focus and is continuously reviewed, optimized and expanded. Furthermore, the increase in selling expenses is attributable to the higher risk provision for expected bad debts in accordance with IFRS 9 as a result of the economic crisis. The selling expenses ratio fell from 10.0% in 2020 to 8.7% in 2021.

Administrative expenses increased by €20.2 million from €176.5 million in fiscal 2020 to €196.7 million in the year under review. Although the number of employees declined, the measures taken during the course of the coronavirus pandemic, such as short-time working, were utilized to a much lesser extent. Additionally, impairment losses were recognized on assets as certain projects are no longer being pursued. The ratio of administrative expenses to sales revenues fell from 6.9% in 2020 to 6.0% in 2021.

Research and development costs decreased from €178.0 million in fiscal 2020 to €159.6 million in the reporting period. Savings were achieved by relocating research and development activities from Austin (USA) to Germany and subsequently closing the American location. Personnel expenditure nevertheless increased slightly. KUKA places high priority on research and development activities. As at December 31, 2021, 1,305 people were employed in research and development (December 31, 2020: 1,257 employees) – equivalent to 9.2% of the workforce in both fiscal years.

The costs of €31.3 million (2020: €30.1 million) incurred for new developments in the year under review were capitalized and will be reported as scheduled amortization in subsequent financial statements. Amortization of R&D expenses capitalized in previous years amounted to €28.4 million, after €27.9 million in 2020. The capitalization ratio rose from 16.7% in 2020 to 19.2% in 2021. Please refer to the research and development chapter of the management report for further information and details.

Other operating income increased from €10.0 million in fiscal 2020 to €14.9 million and included, among other things, income from the sale of real estate no longer required and from the sale of individual assets at Swisslog Healthcare. By contrast, other operating expenses fell from €14.5 million in fiscal 2020 to €9.3 million in fiscal 2021, which included expenses for other taxes (2021: €5.6 million; 2020: €4.7 million).

EBIT in KUKA Group

in € millions	2017	2018	2019	2020	2021
Group	102.7	34.3	47.8	-113.2	61.8
in % of sales revenues	3.0	1.1	1.5	-4.4	1.9

Depreciation and amortization decreased by €6.2 million in fiscal 2021 to €140.2 million (2020: €146.4 million). Amortization of capitalized leases in accordance with IFRS 16 decreased slightly from €37.2 million to €35.9 million. In the year under review, impairment losses of €10.6 million (2020: €16.1 million) were recognized for projects no longer being pursued. The depreciation and amortization breaks down into €17.1 million (2020: €19.3 million) for the Systems business segment, €43.6 million (2020: €50.3 million) for Robotics, €17.5 million (2020: €18.3 million) for Swisslog, €12.8 million (2020: €13.6 million) for Swisslog Healthcare, and €13.8 million (2020: €12.5 million) for the China segment.

This resulted in earnings before interest, taxes, depreciation and amortization (EBITDA) of €202.0 million. The strong increase of €168.8 million (2020: €33.2 million) is attributable in particular to the significantly improved positive EBIT.

EBITDA in KUKA Group

in € millions	2017	2018	2019	2020	2021
Group	180.2	121.2	176.5	33.2	202.0
in % of sales revenues	5.2	3.7	5.5	1.3	6.1

Financial result remains positive

The net expenses and income in the financial result equated to an income of €13.5 million for fiscal 2021. Compared with the previous year, this represents an increase of €10.5 million (2020: income of €3.0 million).

Interest income of €27.1 million in fiscal 2021 was up slightly by €0.2 million (2020: €26.9 million). Interest income on bank balances at a subsidiary in the China segment was up year on year. By contrast, there was a slight year-on-year decline in income from the finance lease at KUKA Toledo Production Operations LLC, Toledo, USA (KTPO).

The foreign currency gains of €45.6 million (2020: €41.7 million) together with the foreign currency losses of €43.8 million (2020: €42.7 million) resulted in a net foreign currency gain of €1.8 million in the year under review (2020: loss of –€1.0 million). The financial result was also positively influenced by the income from the sale of the shares in Servotronix Motion Control Ltd. in the year under review. The ongoing changes in the fair value of an interest rate swap had a further positive effect.

Interest expense decreased slightly from €20.0 million in the previous year to €19.2 million in the year under review. At €5.2 million (2020: €5.5 million), interest expenses in connection with leases accounted for a significant proportion of this figure. Interest expenses of €6.6 million were incurred for the promissory note loans (Schuldschein) placed by KUKA AG and KTPO and for the inter-company loan (2020: €7.6 million). Net interest expense for pensions decreased from €1.0 million in 2020 to €0.6 million in 2021. Expenditure for sureties and guarantees amounted to €1.4 million in both fiscal years.

EBT (earnings before taxes) rose to €75.3 million, up considerably on the previous year (2020: –€110.2 million). The tax expenditure of –€25.9 million (2020: tax income of €15.6 million) corresponds to a tax rate of 34.4% (2020: 14.2%). The tax rate was mainly due to the revaluation of deferred tax assets and the offsetting effects of tax subsidies in North America and China. Furthermore, a high tax income from previous years, which resulted from a completed tax audit, had a positive effect on the tax rate.

Proposed dividend of €0.11 per share

KUKA Group's earnings after taxes amounted to €49.4 million and were thus significantly higher than the figure for fiscal 2020 (2020: –€94.6 million). The economic development after more than a year of the coronavirus pandemic had a positive impact on KUKA Group. The resulting earnings per share stood at €0.98 in 2021 (2020: –€2.59).

€95.5 million will be withdrawn from the existing other revenue reserves. The Management Board will propose to the Annual General Meeting that a dividend of €0.11 per share be paid for fiscal 2021.

Group income statement (condensed)

in € millions	2017	2018	2019	2020	2021
Sales revenues	3,479.1	3,242.1	3,192.6	2,573.5	3,286.2
EBIT	102.7	34.3	47.8	-113.2	61.8
EBITDA	180.2	121.2	176.5	33.2	202.0
Financial result	-9.2	0.6	6.6	3.0	13.5
Taxes on income	-5.3	-18.3	-36.6	15.6	-25.9
Earnings after taxes	88.2	16.6	17.8	-94.6	49.4

Financial position

For information on the financial management principles and objectives, or on the financing structure and liquidity position of the Group, please refer to note 29.

Assessment by rating agencies

Due to the adverse effects of the coronavirus crisis – especially in the core automotive business segment – KUKA was unable to meet the earnings expectations formulated by S & P Global Ratings for maintaining an investment grade rating for fiscal 2020. As a result, the rating agency lowered KUKA AG's rating by one notch from BBB- to BB+ on February 1, 2021. In view of the expected stabilization of the market environment and the resulting earnings opportunities for KUKA, S & P considers the outlook for KUKA AG's rating as "stable". KUKA's liquidity position continues to be rated as "strong".

Condensed Group cash flow statement

in € millions	2017	2018	2019	2020	2021
Cash earnings	184.6	129.0	167.1	40.9	223.3
Cash flow from operating activities	92.0	-48.2	214.5	77.4	208.0
Cash flow from investment activities	-227.7	-165.5	-193.8	-40.4	-107.6
Free cash flow	-135.7	-213.7	20.7	37.0	100.4

Cash earnings are an indicator derived from the earnings after taxes, adjusted for income taxes (excluding deferred taxes), net interest, cash-neutral depreciation on tangible assets, intangible assets, investments in financial assets, and right-of-use assets pursuant to IFRS 16, together with other non-cash income and expenses (including deferred taxes). Due to the positive result, cash earnings of €223.3 million (2020: €40.9 million) represented the good economic situation of the company.

Cash flow from operating activities of KUKA Group rose by €130.6 million from €77.4 million in 2020 to €208.0 million in 2021, thereby reaching the pre-crisis level. The increase is primarily attributable to the positive cash earnings as compared to the previous year. Furthermore, the ongoing measures to monitor and optimize trade working capital meant that it was slightly above the prior-year level due to the increase in business volume. At the end of fiscal 2021, it increased by €4.1 million from €394.6 million to €398.7 million. There was a year-on-year increase in all areas of trade working capital. Thus, inventories increased from €307.9 million in 2020 to €445.6 million in 2021 while trade receivables and contract assets rose from €756.3 million in 2020 to €1,072.1 million in 2021. At €1,119.0 million, trade payables and contract liabilities were also significantly higher than the prior-year figure of €669.6 million. Overall, trade working capital developed as follows:

Trade Working Capital

in € millions	2017	2018	2019	2020	2021
Inventories [1]	387.4	466.8	344.5	307.9	445.6
Trade receivables and contract assets	923.8	909.0	905.0	756.3	1,072.1
Trade payables and contract liabilities [1]	857.3	809.5	739.4	669.6	1,119.0
Trade working capital	**453.9**	**566.3**	**510.1**	**394.6**	**398.7**

[1] For reasons of better comparability, the trade working capital KPI has been adjusted for fiscal 2017 and the advance payments received are shown under contract liabilities.

Capital expenditure in KUKA Group

The volume of investments in intangible and tangible assets totaled €101.4 million in fiscal 2021 (2020: €80.7 million). In the year under review, for example, investments were made in production buildings in Shunde, China. Additionally, further expansion and optimization work was carried out at production locations.

The carrying amount of the company's own development work and internally generated intangible assets totaled €110.8 million (2020: €104.6 million). For more detailed information on the development priorities, please refer to the section "Research and development".

Investments in intangible assets and property, plant and equipment

in € millions	2017	2018	2019	2020	2021
Group	138.8	295.4	151.1	80.7	101.4

Investments in intangible assets in fiscal 2021 totaled €39.9 million (2020: €34.6 million), including €7.7 million (2020: €3.0 million) for licenses and other rights, €31.3 million (2020: €30.1 million) for internally generated software and development costs, and €0.9 million (2020: €1.5 million) for advance payments.

At €61.5 million, investments in property, plant and equipment were up on the previous year (2020: €46.1 million). Investments in land, leasehold rights and construction, including buildings on third-party land, totaled €9.7 million (2020: €11.4 million). Investments amounted to €14.1 million in technical plant and machinery (2020: €13.5 million), €15.6 million in other plant/factory and office equipment (2020: €12.9 million), and €22.1 million in advances paid and construction in progress (2020: €8.3 million). The moderate increase in investments in property, plant and equipment is largely attributable to site expansions and modernizations.

The Systems business segment accounted for €8.5 million (2020: €7.3 million) of overall investment. In the year under review, investments were made in technical plant and machinery, in particular to optimize production, and in the expansion of an office building at a subsidiary in Romania, which was occupied in the previous year. Investments in the Robotics business segment amounted to €29.8 million (2020: €28.2 million), the largest share of which was attributable to capitalized company-produced assets. In the Swisslog segment, investments totaled €12.7 million (2020: €10.9 million). More than half of the investments related to intangible assets. Further investments were also made in equipping the new office building at the German location. At €14.5 million, investments of the Swisslog Healthcare business segment were higher than in the previous year (2020: €12.6 million). The main part of this was accounted for by the further development of existing products for hospitals. In the China segment, €24.7 million was invested (2020: €9.1 million). Among other things, this expenditure related to the expansion of the production location in Shunde, China. In the Corporate Functions segment, investments in fiscal 2021 totaled €11.2 million after €13.3 million in 2020. The majority was attributable to investments in a production building at the location.

The investment volume by segment is presented below:

Investments in intangible assets and property, plant and equipment

in € millions	2020	2021
Systems	7.3	8.5
Robotics	28.2	29.8
Swisslog	10.9	12.7
Swisslog Healthcare	12.6	14.5
China	9.1	24.7
Corporate Functions	13.3	11.2

Cash outflows for acquisitions of groups of assets and cash outflows for acquisitions of consolidated companies carried out in previous years totaled €0.7 million in fiscal 2021 (2020: €6.5 million) and are as follows:

Acquisitions

in € millions	2020	2021
UTICA Enterprises, Shelby Township, Michigan/USA	1.9	0.6
Pharmony SA, Luxembourg/Luxembourg	–	0.1
Servotronix Motion Control Ltd., Petah Tikva/Israel	4.5	–
Other	0.1	–
Total payments	**6.5**	**0.7**

In the year under review, cash inflows from investments in financial assets and investments accounted for using the equity method mainly included dividend payments from the Yawei Reis Robot Manufacturing joint venture amounting to €0.7 million and the proceeds from the sale of shares in Servotronix Motion Control Ltd. amounting to €16.1 million.

Payments from disposals of fixed assets mainly include proceeds from the sale of real estate no longer required.

Positive free cash flow for the third year in a row with a new record value of €100.4 million

Cash flow from current business operations (2021: €208.0 million; 2020: €77.4 million) and cash flow from investment activities (2021: –€107.6 million; 2020: –€40.4 million) together resulted in a positive free cash flow of €100.4 million (2020: €37.0 million). The highest free cash flow in the company's history was thus achieved in fiscal 2021.

Negative cash flow from financing activities

The cash flow from financing activities amounted to –€34.8 million in 2021 after –€42.7 million in 2020. This includes, on the one hand, dividend payments of €0.11 per share (2020: €0.15 per share) with a total amount of €4.4 million in 2021 (2020: €6.0 million) and, on the other hand, the raising of current financial liabilities under the syndicated loan and other changes in current liabilities to banks (2021: –€9.0 million; 2020: €2.3 million). Interest paid, including the interest component of leases (2021: –€18.5 million; 2020: –€19.3 million), and the redemption component of lease payments (2021: –€34.6 million; 2020: –€34.1 million) also had a negative impact. Payments from grants received amounting to €31.7 million, compared with €14.4 million in the previous year, had a positive impact on cash flow from financing activities.

Group net liquidity

in € millions	2020	2021
Cash and cash equivalents	554.6	673.2
Current financial liabilities	-154.6	-332.0
Non-current financial liabilities incl. accounts payable to affiliated companies	-370.0	-193.1
Group net liquidity	**30.0**	**148.1**
Cash and guarantee facilities from syndicated senior facilities agreement	520.0	520.0
Guarantee facility with banks and surety companies	170.3	170.3

As at the end of fiscal 2021, net liquidity had risen to €148.1 million (2020: €30.0 million). Cash and cash equivalents increased from €554.6 million in 2020 to €673.2 million in 2021. The second tranche of the promissory note loans (Schuldschein) at KUKA Toledo Productions Operations LLC, Toledo, Ohio, USA (KTPO) with a volume of USD 90 million was due in February 2022, resulting in a reclassification between non-current and current financial liabilities. Moreover, the tranche of the EUR promissory note loan (Schuldschein) maturing in October 2022 with a volume of €107.5 million was also reclassified to the current portion of financial liabilities. The change in the inter-company loan reported under non-current financial liabilities is attributable to the interest payments thereon.

Net assets and financial position

Non-current assets decreased by €44.2 million from €1,296.7 million at December 31, 2020 to €1,252.5 million at December 31, 2021, resulting in a €32.0 million decrease in deferred taxes amounting to €95.8 million (2020: €127.8 million). Losses carried forward accounted for €55.9 million (2020: €27.0 million) of deferred taxes. Financial investments totaled €5.0 million as at December 31, 2021, compared with €17.1 million in the previous year. On the one hand, the shares in Servotronix Motion Control Ltd. were sold. On the other hand, KUKA Group received shares in Otsaw Technology Solutions Pte. Ltd. Furthermore, KUKA received shares in Otsaw Swisslog Healthcare Robotics Pte. Ltd. As a result, investments accounted for using the equity method increased to €29.7 million as at December 31, 2021, compared with €26.4 million as at December 31, 2020.

The non-current finance lease receivable at KTPO decreased by €18.9 million to €100.7 million as at December 31, 2021 (December 31, 2020: €119.6 million). Furthermore, non-current other receivables of €1.3 million as at December 31, 2021 (December 31, 2020: €2.9 million), right-of-use assets from leases of €114.7 million as at December 31, 2021 (December 31, 2020: €115.5 million) and income tax receivables of €0.5 million as at December 31, 2021 (December 31, 2020: €1.0 million) decreased slightly.

By contrast, intangible assets increased slightly from €533.3 million as at December 31, 2020 to €536.3 million as at December 31, 2021. This item included goodwill of €323.2 million (December 31, 2020: €313.2 million). The increase in property, plant and equipment from €353.1 million as at December 31, 2020 to €368.5 million as at December 31, 2021 is primarily attributable to the investments in the production buildings in Shunde, China.

As at the balance sheet date of the year under review, current assets amounted to €2,456.6 million and were thus up €636.8 million on the previous year's figure (December 31, 2020: €1,819.8 million).

An upward trend can be observed in all current balance sheet items with the exception of income tax receivables (December 31, 2021: €21.1 million; December 31, 2020: €30.2 million). For example, inventories increased by €137.7 million (December 31, 2021: €445.6 million; December 31, 2020: €307.9 million), trade receivables by €201.5 million (December 31, 2021: €596.9 million; December 31, 2020: €395.4 million) and contract assets by €114.3 million (December 31, 2021: €475.2 million; December 31, 2020: €360.9 million). This is largely due to the increased volume of business and sales.

The current portion of the finance lease receivables increased only slightly to €32.9 million as at December 31, 2021, compared with €28.4 million as at December 31, 2020. As a result of the acquisition of securities with a term of significantly less than one year, an increase of €69.3 million in other current receivables and other assets to €211.7 million as at December 31, 2021 (December 31, 2020: €142.4 million) can be observed.

Cash and cash equivalents were up from €554.6 million as at December 31, 2020 to €673.2 million as at December 31, 2021.

Group net assets

in € millions	2017	2018	2019	2020	2021
Balance sheet total	2,640.1	3,218.5	3,426.6	3,116.5	3,709.1
Equity	866.6	1,339.6	1,348.6	1,203.7	1,354.6
in % of balance sheet total	32.8	41.6	39.4	38.6	36.5
Net liquidity/debt	-45.2	92.9	50.2	30.0	148.1

Overall, the balance sheet total of KUKA Group increased by €592.6 million from €3,116.5 million as at December 31, 2020 to €3,709.1 million as at December 31, 2021.

Equity ratio of 36.5%

Due to the growth of the balance sheet total, the equity ratio fell from 38.6% to 36.5% year on year. Overall, equity increased by €151.0 million to €1,354.6 million as at the 2021 balance sheet date (December 31, 2020: €1,203.7 million). Both the subscribed capital of €103.4 million and the capital reserve of €306.6 million remained unchanged in the year under review. The positive earnings after taxes of €49.4 million, foreign exchange effects of €60.9 million and of €33.0 million attributable to minority interests, and the reduction in actuarial losses from the measurement of pensions not affecting net income, including the deferred taxes of €14.3 million thereon, were partly offset by the dividend distribution of €4.4 million. The main foreign exchange effects were attributable to the Chinese renminbi, the US dollar and the Swiss franc. Minority interests increased from €280.5 million as at December 31, 2020 to €325.3 million as at December 31, 2021.

Financial liabilities remained virtually unchanged from the previous year. The current portion of financial liabilities increased from €154.6 million as at December 31, 2020 to €332.0 million as at December 31, 2021 and showed, on the one hand, the drawings on the syndicated loan and, on the other hand, the second tranche of the USD promissory note loans (Schuldschein) maturing in February 2022 and the second tranche of the EUR promissory note loan (Schuldschein) maturing in October 2022. Non-current financial liabilities of €44.4 million as at December 31, 2021 were lower than the prior-year figure (December 31, 2020: €221.6 million) due to the reclassification of the promissory note loans (Schuldschein) to the current portion. The loan from Midea Group Ltd. in the amount of €148.7 million as at December 31, 2021 is reported under "Non-current accounts payable to affiliated companies".

Lease liabilities increased slightly and amounted to €124.6 million as at December 31, 2021 (December 31, 2020: €121.6 million). Of this amount, €30.2 million (December 31, 2020: €28.7 million) was accounted for by current lease liabilities and €94.4 million (December 31, 2020: €92.9 million) by non-current lease liabilities. Overall, non-current liabilities totaled €427.0 million as at the 2021 balance sheet date (December 31, 2020: €634.6 million).

Current liabilities increased by €649.3 million and amounted to €1,927.5 million as at December 31, 2021 (December 31, 2020: €1,278.2 million). Trade payables increased by €280.9 million to €634.2 million (December 31, 2020: €353.3 million). Contract liabilities also increased by €168.5 million from €316.3 million as at December 31, 2020 to €484.8 million as at December 31, 2021. Corresponding to the same trend on the asset side of trade working capital, this increase in operating liabilities is attributable to the increased volume of business.

The increase of €63.5 million in other current liabilities, which amounted to €276.6 million as at December 31, 2021 (December 31, 2020: €213.1 million), was primarily attributable to higher liabilities for personnel-related items (December 31, 2021: €140.8 million; December 31, 2020: €109.2 million).

Other provisions decreased by €26.6 million from €168.6 million as at December 31, 2020 to €142.0 million as at December 31, 2021. This was mainly due to the decrease in the restructuring provision recognized in the previous year. There was also an increase in litigation risks and warranty provisions in particular. However, a settlement was reached in a pending legal dispute after the balance sheet date. The reduction of €15.9 million in income tax liabilities from €43.5 million as at December 31, 2020 to €27.6 million as at December 31, 2021 was related to the assessment of tax matters in the USA. Current liabilities to affiliated companies remained unchanged compared with the previous year (December 31, 2021: €0.1 million; December 31, 2020: €0.1 million).

Group assets and financial structure

in € millions	2020	2021
Current assets	1,819.8	2,456.6
Non-current assets	1,296.7	1,252.5
Assets	**3,116.5**	**3,709.1**
Current liabilities	1,278.2	1,927.5
Non-current liabilities	634.6	427.0
Equity	1,203.7	1,354.6
Liabilities	**3,116.5**	**3,709.1**

Slight increase in working capital due to business performance

As a result of the continuous, systematic monitoring of the individual working capital items and despite the increase in business volume, working capital of €125.6 million in fiscal 2021 remained approximately at the prior-year level (2020: €123.7 million). The working capital of the individual segments developed as follows:

in € millions	2020	2021
Systems	47.9	131.3
Robotics	134.8	136.7
Swisslog	-97.8	-105.9
Swisslog Healthcare	23.6	19.5
China	14.3	-37.9
Corporate Functions	6.7	-9.8
Reconciliation to Group	-5.6	-8.3
Total	**123.7**	**125.6**

Reduced capital employed and return on capital employed (ROCE)

ROCE (return on capital employed) is the ratio of earnings before interest and taxes to net capital employed. To calculate ROCE the capital employed is based on an average value. ROCE illustrates the effectiveness and profitability of the capital employed. Capital employed includes working capital, intangible assets, property, plant and equipment, and right-of-use assets from leases. Capital employed thus represents the difference between operating assets and non-interest-bearing debt capital. The capital employed is calculated as the average of capital employed at the beginning and end of a given fiscal year.

On average, KUKA Group's capital employed in 2021 and 2020 amounted to €1,245.5 million (2020: €1,321.1 million) and €1,245.8 million at the end of fiscal 2021 (2020: €1,245.2 million). The positive EBIT of €61.8 million (2020: –€113.2 million) divided by average capital employed resulted in a ROCE of 5.0% (2020: -8.6%).

Return on capital employed (ROCE)

in % of capital employed	2017	2018	2019	2020	2021
Group	10.9	2.9	3.5	-8.6	5.0

In almost all business segments, average capital employed was down year on year. Due to the year-on-year improvement in EBIT, the resulting ROCE in all segments was higher – in some cases significantly higher – than in the previous year.

In the Systems business segment, the average capital employed of €318.5 million as at December 31, 2021 (2020: €284.3 million) resulted in a ROCE of 9.8% (2020: -13.2%). In the Robotics business segment, capital employed fell from €407.7 million in 2020 to €372.5 million in 2021. This resulted in a ROCE of 16.6% 2021 after -1.0% in the previous year. The Swisslog business segment also reported a decrease in average capital employed to €124.2 million as at December 31, 2021 (2020: €136.0 million). Due to the significantly higher EBIT, ROCE increased from 0.6% in 2020 to 15.3% in the year under review. Capital employed also decreased in the Swisslog Healthcare segment (2021: €157.8 million; 2020: €163.6 million) and the improved EBIT increased the resulting ROCE (2021: 2.4%; 2020: 1.9%). In the China segment, ROCE was up from -3.1% in 2020 to 8.3% in 2021. The average capital employed was €123.2 million, as opposed to €151.4 million in the previous year.

Return on capital employed (ROCE)

in % of capital employed	2020	2021
of which Systems	-13.2	9.8
of which Robotics	-1.0	16.6
of which Swisslog	0.6	15.3
of which Swisslog Healthcare	1.9	2.4
of which China	-3.1	8.3

Events after the balance sheet date

In a pending legal dispute in the USA, a settlement in the low single-digit million range was reached at the beginning of fiscal 2022. The provision recognized essentially corresponded to the settlement amount.

Furthermore, the decision was taken after the reporting date to dispose of certain assets of a subsidiary located in Belgium. Proceeds from the sale are expected to be in the low single-digit million euro range.

In addition, the Russia-Ukraine conflict represents a non-adjusting event that could impact the growth prospects in KUKA Group. Due to the extent of KUKA Group's operating activities in Russia, the Management Board expects only a limited direct impact on assets and sales revenues. The indirect effects of the sanctions against Russia can in principle affect all segments and relate, for example, to global supply and value chains, movements in commodity prices and exchange rates, as well as country-specific and global economic developments. At the time of reporting, these effects are not yet foreseeable, but the corresponding risks are being continuously monitored and assessed.

Notes to the annual financial statements of KUKA Aktiengesellschaft

KUKA Aktiengesellschaft acts as the management holding company within the Group with central management responsibilities such as accounting and controlling, finance, human resources, legal, IT and financial communications. The financial position is determined primarily by the activities of its subsidiaries. This is reflected in the direct allocation of the main companies of the Robotics, Systems, Swisslog, Swisslog Healthcare and China divisions. In the consolidated financial statements, KUKA Aktiengesellschaft is allocated to the Corporate Functions segment.

The annual financial statements of KUKA Aktiengesellschaft are prepared in accordance with the provisions of the German Commercial Code (HGB) and the German Stock Corporation Act (AktG). The financial statements of KUKA Aktiengesellschaft are published in the electronic Federal Gazette (Bundesanzeiger) and on the KUKA Group website (www.kuka.com).

Income statement of KUKA Aktiengesellschaft (HGB)

in € millions	2020	2021
Sales revenues	115.6	109.3
Other company-produced and capitalized assets	1.3	1.3
Other operating income	152.5	47.8
Cost of materials	-54.1	-57.4
Personnel expenses	-51.2	-55.3
Depreciation and amortization of tangible and intangible assets	-22.6	-10.0
Other operating expenses	-89.5	-123.3
Income/expenses from equity investments	-9.7	-4.1
Other interest and similar income	12.6	12.0
Depreciation of financial assets	-10.0	-21.9
Interest and similar expenses	-8.5	-7.3
Taxes on income	-10.7	-1.3
Net profit/net loss for the year	**25.6**	**-110.2**
Profit carryforward from the previous year	35.6	22.0
Withdrawal from revenue reserves	–	95.5
Transfer to revenue reserves	-12.8	–
Balance sheet profit	**48.4**	**7.3**

Balance sheet of KUKA Aktiengesellschaft (HGB)

Assets in € millions	Dec. 31, 2020	Dec. 31, 2021
Fixed assets		
Intangible assets	15.9	11.8
Tangible assets	8.8	10.0
Financial assets	495.7	759.5
	520.5	**781.3**
Current assets		
Receivables from affiliated companies	946.9	561.4
Other receivables and assets	1.0	0.8
Securities	25.0	20.0
	972.9	**582.2**
Cash and cash equivalents	**19.9**	**14.4**
	992.8	**596.6**
Prepaid expenses	**2.5**	**3.6**
	1,515.7	**1,381.5**

Liabilities in € millions	Dec. 31, 2020	Dec. 31, 2021
Equity		
Subscribed capital	103.4	103.4
Capital reserve	305.8	305.8
Other revenue reserves	311.4	237.9
Balance sheet profit	48.4	7.3
	769.0	**654.4**
Provisions		
Pension provisions	11.7	11.6
Provisions for taxes	15.4	14.2
Other provisions	25.4	37.9
	52.6	**63.8**
Liabilities		
Liabilities due to banks	258.6	252.6
Trade payables	5.7	3.6
Accounts payable to affiliated companies	422.3	402.7
Liabilities to provident funds	2.5	2.5
Other liabilities	5.1	1.9
	694.1	**663.3**
	1,515.7	**1,381.5**

Results of operations of KUKA Aktiengesellschaft

The income situation of KUKA Aktiengesellschaft significantly depends on the results of the (direct) subsidiaries, the financing activities and the expenditure and income relating to the holding function.

Sales revenues decreased from €115.6 million in 2020 to €109.3 million in 2021. KUKA Aktiengesellschaft mainly generates its sales revenues from cost allocations and cost transfers to subsidiaries. These rose by 9.8% to €109.3 million in the past fiscal year (2020: €99.5 million). Due to the establishment of KUKA Real Estate GmbH & Co. KG in the previous year and the associated transfer of business to this company, there have been no revenues from the rental of buildings since fiscal 2021 (2020: €16.1 million).

The expenses associated with sales revenues are reported as cost of materials and services purchased. These amounted to €57.4 million during the financial year (2020: €54.1 million).

Other operating income of €47.8 million (2020: €152.5 million) mainly includes foreign exchange gains primarily from the US dollar, Swiss franc, Swedish krona and Norwegian krone. In fiscal 2021, income from the spin-off and transfer of buildings at the Augsburg location amounting to €1.7 million is also reported under other operating income. In the previous year, there was income of €115.4 million from the contribution of land and buildings to KUKA Real Estate GmbH & Co. KG.

Other operating expenses rose from €89.5 million to €123.3 million. The increase is primarily the result of value adjustments made on receivables from affiliated companies. Furthermore, there are higher currency losses and higher rental expenses.

Personnel expenditure increased by 8.0% year on year to €55.3 million (2020: €51.2 million). This included less relief from short-time working in fiscal 2021. Additionally, the change in the Management Board of KUKA Aktiengesellschaft had the effect of increasing expenses. The average number of employees decreased from 571 in the previous year to 551 in fiscal 2021.

Income from participations amounted to –€4.1 million, compared with –€9.7 million in the previous year. This includes the earnings contributions of the German companies that have a profit and loss transfer agreement with KUKA Aktiengesellschaft.

Write-downs of financial assets in the amount of –€21.9 million (2020: –€10.0 million) relate to shares in a subsidiary that are expected to be permanently impaired.

Net interest increased slightly by €0.6 million to €4.6 million (2020: €4.0 million). Compared with 2020, there were lower expenses for bank loans and interest expenses to banks in particular. Net interest income from consolidated affiliated companies remains unchanged at €11.1 million (2020: €11.1 million).

The reported taxes on income and earnings amounting to €1.3 million (2020: €10.7 million) mainly include tax expenses due to foreign withholding taxes.

KUKA Aktiengesellschaft's net loss for fiscal 2021 was –€110.2 million (net income for 2020: €25.6 million) and was below the previous year's forecast of a slight increase due to higher other operating expenses, write-downs on financial assets and lower earnings contributions from subsidiaries. Taking into account the profit of €22.0 million carried forward from the previous year and the withdrawal of €95.5 million from revenue reserves, this results in a balance sheet profit of €7.3 million.

Financial position of KUKA Aktiengesellschaft

One of KUKA Aktiengesellschaft's most important tasks is to provide funds and guarantees for its subsidiaries' current operations. The resources used for external finance such as the promissory note loan (Schuldschein) and the syndicated loan agreement are described in detail in the section on the financial position of KUKA Group.

KUKA Aktiengesellschaft's financing role is reflected in its receivables from and liabilities to affiliated companies, which are predominantly the result of cash pooling accounts with subsidiaries and loans provided. They also include a loan from Midea International Corporation Company Limited, Hong Kong, in the amount of €150.0 million to KUKA Aktiengesellschaft. The balance of these receivables and liabilities was a net receivables figure of €158.7 million (2020: €524.6 million). The change in receivables resulted in particular from the contribution of an inter-company loan to the equity of a subsidiary at the Augsburg location and lower receivables from financial resources.

The liquid assets of KUKA Aktiengesellschaft fell from €19.9 million to €14.4 million. Liabilities to banks decreased year on year by €6.0 million to €252.6 million (2020: €258.6 million). This includes liabilities from the promissory note loan (Schuldschein) and the short-term drawdown of the working capital facility under the syndicated loan agreement.

Net assets of KUKA Aktiengesellschaft

The net assets of KUKA Aktiengesellschaft are impacted by the management of its equity investments as well as the way in which it executes its management function for the companies in KUKA Group. The receivables from affiliated companies fell significantly from €946.9 million in the previous year to €561.4 million. The decrease resulted in particular from the aforementioned contribution of a loan to the equity of a subsidiary. For further details of the receivables from and liabilities to affiliated companies and financial items, please refer to the information on KUKA Aktiengesellschaft's financial position.

Depreciation and amortization of intangible and tangible fixed assets decreased from €22.6 million in 2020 to €10.0 million in 2021. The main reason for this is the contribution of land and buildings to KUKA Real Estate GmbH & Co. KG in the previous year and the associated lower depreciation of property, plant and equipment in 2021 at KUKA Aktiengesellschaft.

Investments totaling €293.1 million (2020: €35.1 million) were made in fiscal 2021. The investments in intangible assets relate primarily to IT infrastructure. The aforementioned transfer of buildings at the Augsburg location is reflected in property, plant and equipment. KUKA Aktiengesellschaft's direct equity investments in its subsidiaries are reported under financial assets. The increase to €759.5 million (2020: €495.7 million) results from the aforementioned contribution of a loan and from investments in Swisslog Group.

Other assets decreased slightly to €0.8 million in 2021 (2020: €1.0 million).

The short-term securities totaling €20.0 million (2020: €25.0 million) have a term of four months and relate to long-term freely available financial resources invested in conjunction with liquidity management.

Equity was down €114.6 million on the previous year, thus reflecting the negative result for the fiscal year. Additionally, a dividend of €4.4 million for fiscal 2020 was paid out in the 2021 fiscal year. The equity ratio of KUKA Aktiengesellschaft amounts to 47.4% as at the balance sheet date December 31, 2021 (2020: 50.7%).

As at December 31, 2021, other provisions totaled €37.9 million (2020: €25.4 million) and were thus up on the corresponding figure for the previous year. In addition to higher provisions for impending losses on foreign currency derivatives, this was due to higher provisions for outstanding invoices and other provisions for risks.

Other liabilities decreased from €5.1 million to €1.9 million due to lower tax liabilities.

The net impact on the balance sheet total of KUKA Aktiengesellschaft resulting from the effects described was a decrease of €134.2 million to €1,381.5 million (December 31, 2020: €1,515.7 million).

Dependency report

Since there is no control agreement between KUKA Aktiengesellschaft and the majority shareholder, the Management Board prepares a report on the company's relationships with affiliated companies during the reporting period pursuant to section 312 of the German Stock Corporation Act (AktG). The report was concluded with the following declaration:

"We declare that for each legal transaction in relation to the legal transactions and measures listed in the report on relationships with affiliated companies, the company received appropriate compensation according to the circumstances known to us at the time the legal transaction was performed or the measure was taken and was not put at a disadvantage as a result of the measures being taken. There were no omitted measures."

Sustainability at KUKA

Ecological responsibility

At KUKA, sustainability is embedded in the corporate culture and stands for responsible business practices aimed at protecting the environment, our employees, customers, investors and our social environment. The responsible use of natural resources for the sake of an intact environment and the continuous improvement of measures to achieve this are important prerequisites for economic success. As an industrial company, KUKA makes a measurable contribution to the reduction of environmental pollution. The aim here is to reduce the consumption of energy and other resources and to cut emissions and waste.

Resource-saving production and environmental protection

KUKA products and systems stand for innovation and quality. KUKA is committed to efficient production processes that protect the environment and reduce pollutants. Environmental issues are therefore continuously taken into account and evaluated by the environmental management team together with the employees responsible. Most of KUKA's production locations work according to internationally recognized management system standards in the areas of environment (ISO 14001), energy (ISO 50001), quality (ISO 9001) and other industry-specific regulations. With our Guidelines for Quality, Health, Safety and Environmental and Energy Management we have established specific procedural instructions relating to all management standards. For many years, KUKA has had a cross-location environmental management system lying within the responsibility of the Group's Management Board.

Focus on emissions and water consumption *

By using certified environmental management systems, KUKA can ensure that the impact of energy consumption and production processes on the environment is as low as possible. KUKA also considers the development of emissions and the volume of waste and effluents to be integral parts of the environmental management system, even if they are less significant than energy consumption. Production waste is separated and disposed of or recycled expertly by trained personnel.

At KUKA, water is only used to a limited extent in the paint shop and in cooling processes. At our largest production locations, the total water consumption in 2021 amounted to 96,150 m^3 (2020: 93,354 m^3).

CO_2 emissions at our largest production locations totaled 28,368 tonnes in 2021 (2020: 27,569 tonnes).

At an increasing number of locations, we are using environmentally-friendly green sources to cover a share of electricity requirements.

Group-wide energy-saving measures *

With the building refurbishment at the Augsburg site in 2021, KUKA expects to achieve annual thermal energy savings of up to 100,000 kWh. Measures designed to achieve these savings include insulating the roof, replacing outdated air heaters with ceiling-mounted radiant heating panels, and using advanced measurement and control technology. Additionally, an older decentralized refrigeration system has been decommissioned and connected to the KUKA refrigeration network. Finally, implementation of the New Office concept has resulted in improved utilization of office space, enabling the removal of two less efficient office containers.

For further details please refer to KUKA's sustainability report at www.kuka.com

* Not verified by auditors

Employees

Employees in KUKA Group

KUKA shapes many different sectors with its technologies. The employees are the pillars of KUKA's success in doing so. In order to further improve its attractiveness as an employer, KUKA offers, for example, an ambitious training and further education program, measures to help employees reconcile work and family life, and promotes diversity and equal opportunities.

The protective measures relating to the coronavirus pandemic continued to have the utmost priority in the current fiscal year. Hygiene and safety concepts were regularly adapted to the ongoing situation. Where their jobs allowed, employees were encouraged to continue working from home. In addition, short-time working was used at German sites and in various areas in the first two quarters. Similar models were also adopted in other countries. As at December 31, 2021, KUKA Group employed 14,128 people. The number of employees was thus 3.1% higher than in the previous year (2020: 13,700). The Systems division employed 3,032 staff as at December 31, 2021. The number was thus on a par with the previous year (2020: 3,033). In the Robotics division, the workforce increased by 1.8% to 5,290 employees (2020: 5,197). The number of employees at Swisslog rose by 6.9% to 2,367 (2020: 2,215). At Swisslog Healthcare, the number of employees fell slightly by 1.4% to 1,053 from 1,068 in the previous year. The workforce in China comprised 1,713 employees at the end of the year under review, 13.0% above the headcount of 1,516 in the previous year. The Chinese market is one of KUKA's focus markets. For this reason, KUKA further expanded its presence in this strategically important growth market.

High standard of training and further education

When it comes to the professional training of young people, KUKA has for decades been offering apprentices not only specialist know-how, but also an opportunity to learn in an intercultural setting and to think and act globally on a Group-wide scale. The company trains in line with requirements and maintains a high standard in the quality of apprentice training and the level of performance. This is why KUKA apprentice graduates finish best in class in their respective training occupation time and again and are then qualified specialists immediately ready for their jobs. Professional training is offered at the German sites in Augsburg, Obernburg and Bremen. The Group offers apprenticeships ranging from technical professions such as industrial mechanic, lathe/milling machine operator, mechatronics technician, electronics technician for automation technology, warehouse logistics specialist and specialist for forwarding and logistics services to occupations such as industrial clerk, IT specialist and technical product designer.

In addition to the traditional apprenticeships, KUKA offers a dual, training-integrated degree course at the Augsburg University of Applied Sciences with the aim of attaining a Bachelor's degree. In addition to the dual integrated study course for mechanical engineering, mechatronics and electrical engineering, the disciplines of business administration, information technology, technical information systems and business information systems are also available to choose from.

As part of our continuing education programs at KUKA Academy, we accompany and support our employees in their personal and professional development. At KUKA Academy, we offer all our employees an extensive and varied range of technical/methodical and personal further education courses. These include standard courses such as IT training and language courses, as well as specialist training for a wide range of business areas. Seminars to promote personal and social skills, in particular communication and intercultural training, as well as global leadership circles complement our continuing education measures which we offer internationally, taking decentralized requirements into account.

For further details please refer to KUKA's sustainability report at www.kuka.com

Diversity and tolerance are the order of the day*

At KUKA, diversity involves promoting and leveraging the diversity of our employees as a source of creativity, innovation and business success. KUKA benefits from various experiences and talents, because living and promoting diversity is part of the corporate culture. At many locations, the company offers employees flexible working times in order to better combine work and private life. Accepting and encouraging diversity to benefit from different experiences and talents is part of the corporate culture at KUKA. As a signatory to the Diversity Charter, KUKA has also anchored the topic within the structure of the company.

Promoting networks*

KUKA supports the internal women's network orangeWIN, which helps to identify and promote female talent. Due to coronavirus, only a few events could be held in the year under review. In addition, KUKA has been participating in the Augsburg cross-mentoring program since 2011. This program supports young managers with their professional and personal development and is designed as a company-wide program. KUKA is also involved in the mentoring partnership MigraNet, which is committed to the professional integration of people with a migrant background.

Social engagement*

Orange Care e. V., a non-profit association in Augsburg founded by KUKA employees, is primarily committed to promoting youth and family welfare and supporting people in need. Orange Care has also sponsored a children's daycare center since 2013 with the goal of improving the work-life balance. Due to the coronavirus pandemic, maintaining regular services at the daycare center in 2021 was a challenge, but one that was met. Investments were made in the maintenance of the outdoor facilities in the reporting year. This included, for example, the replacement of play sand and play equipment as well as the creation and planting of a herb bed. Beyond this, Orange Care is committed to helping people who have fallen on hard times through no fault of their own, people with disabilities and socially disadvantaged young people. One of the social initiatives supported is Kinderweihnachtswunsch e. V. (Christmas wish association for children). The association provides support for children and young people who live in and are cared for by social institutions in the Augsburg area. Thanks to donations through the association, Orange Care was able to fulfill group wishes.

In Germany, KUKA has been a sponsor of the Herrenberg-Gäu Aerospace Lab e. V. youth research center for many years now. The aim of this non-profit association is to familiarize children – and especially girls – with applied robotics and programming at an early age. They are introduced to technical topics and research not through isolated activities, but via long-term and individual support in group work addressing STEM subjects.

Bringing robotics and automation closer to the public*

In November 2021, KUKA once again took part in European Robotics Week – initiated by the European robotics association euRobotics. During this week of events, KUKA employees have the opportunity to get involved in raising awareness of robotics and automation in the general public. Despite the pandemic-related restrictions, KUKA offered a varied program, including a painting competition for children and a robotics lecture for children at the Augsburg Planetarium on the topic of "Humans and Machines on Mars – What Robotics can do in Space". Young people were also able to take a look at production at KUKA during a digital tour of the plant. A digital presentation by a KUKA employee addressed automation in the semiconductor industry, highlighting ways in which robotics and automation can provide a solution to the current global chip shortage. Once again in 2021, some KUKA employees were able to visit schools and childcare facilities despite the restrictions imposed by the pandemic. In this way, they were able to introduce the children to the topic of robotics in an age-appropriate presentation.

* Not verified by auditors

Forecast, opportunity and risk report

Opportunity and risk report

Basic principles

KUKA Group is a global enterprise with international operations. Any entrepreneurial activity provides new business opportunities, but also involves many potential risks. The Management Board of KUKA Aktiengesellschaft aims to systematically and sustainably improve the value of the company for all stakeholders and shareholders by seizing potential opportunities and minimizing said risks.

To achieve this objective, the Management Board has implemented a comprehensive corporate risk management system to systematically and consistently identify, evaluate, manage, monitor and report the internal and external risks to which its business segments and subsidiaries are exposed.

Group management regularly assesses the likelihood that identified risks will occur and their potential impact on expected earnings (EBIT). Worst, medium and best case scenarios are considered and serve as the basis for determining a weighted expected risk value. Accruals and write-downs associated with these risks are recognized in the annual financial statements in accordance with applicable accounting principles. The unsecured residual risks, in other words risks subsequent to risk mitigation measures (net assessment), are therefore depicted as risks.

The risk management system is subject to a monthly reporting process (risk inventory) which involves identifying new risks and carrying out a follow-up assessment of existing risks. These risks are reported if they exceed the threshold defined in the Group's risk management policy. Risks that remain below the threshold are left at segment level and evaluated at "0" in the Group, as the sum of these risks is immaterial for the Group even on a cumulative basis. The information collected in this way is summarized in a risk report that is also prepared each month and addressed to the Management Board of KUKA Group. This report contains a top 10 risk assessment and a risk exposure assessment (overall risk situation) for the business segments, KUKA Aktiengesellschaft as the holding company and KUKA Group. The top 10 risks are also a fixed part of internal monthly management reporting and are discussed at monthly results discussions between the Management Board of KUKA Group and the management of the business segments and KUKA AG. The identified risks are additionally presented and explained in more detail to the Management Board each quarter by the Risk Management Committee. The committee also determines whether any measures already implemented to minimize risk are adequate or whether further steps need to be initiated. It assesses the plausibility of the reported risks and determines how to avoid similar risks in the future. The risk report is also reviewed during Management Board and Supervisory Board meetings, especially by the Audit Committee.

Direct responsibility for the early identification, control and communication of risks lies with the management of the business segments and the individual subsidiaries, as well as with those responsible for the respective holding functions. Risk managers in the central and decentralized business units ensure that the reporting process is uniform with clearly defined reporting channels and reporting thresholds that are adapted to the business segments and KUKA AG. Internal ad hoc announcements are mandatory whenever risks exceed the Group's defined reporting thresholds. Standard procedures applied throughout the Group ensure that risk management is efficient and effective. Corporate Risk Management coordinates the risk management system. Here, the individual risks identified are compiled into the aforementioned top 10 risk overviews or risk exposure overviews, communicated and monitored. This role is based within KUKA Aktiengesellschaft's Corporate Controlling department, which reports directly to the CFO of KUKA Aktiengesellschaft. This ensures that risk management is an integral component of KUKA Group's overall planning, control and reporting process.

In principle, the Group's risk management system enables the Management Board to identify material risks at an early stage, initiate appropriate steps to counter these risks and monitor implementation of the steps. The internal audit department regularly monitors compliance with the risk management policy of KUKA Group and therefore whether existing procedures and tools are effective. It also audits those responsible for the risks if this is relevant. The internal audit department also regularly audits the risk management process to ensure efficiency and continuous improvement. Furthermore, external auditors check that the early risk identification system is suitable for early identification of risks that could threaten the existence of the company as a going concern.

In addition to the risk management system, KUKA Group has an internal controlling system (see management report, "Internal control and risk management system" section) above and beyond the risk management system, which it uses to continuously monitor the appropriateness of the corporation's business and accounting processes and identify potential improvements.

Risks and opportunities in KUKA Group

KUKA Group's opportunity and risk-related controlling process ensures that the company's managers take both opportunities and risks into consideration. The Group's risk exposure, based upon evaluating operating risks according to the procedure outlined in the "Basic principles" section, is described below. The report includes the aggregated expected risk value, which is calculated on the basis of the various weighted scenarios and their respective likelihood of occurrence. The aggregated expected risk values of all risks managed and quantified in the Group are reported. The following section quantifies the risks managed at Group level as well as the operating risks of the divisions.

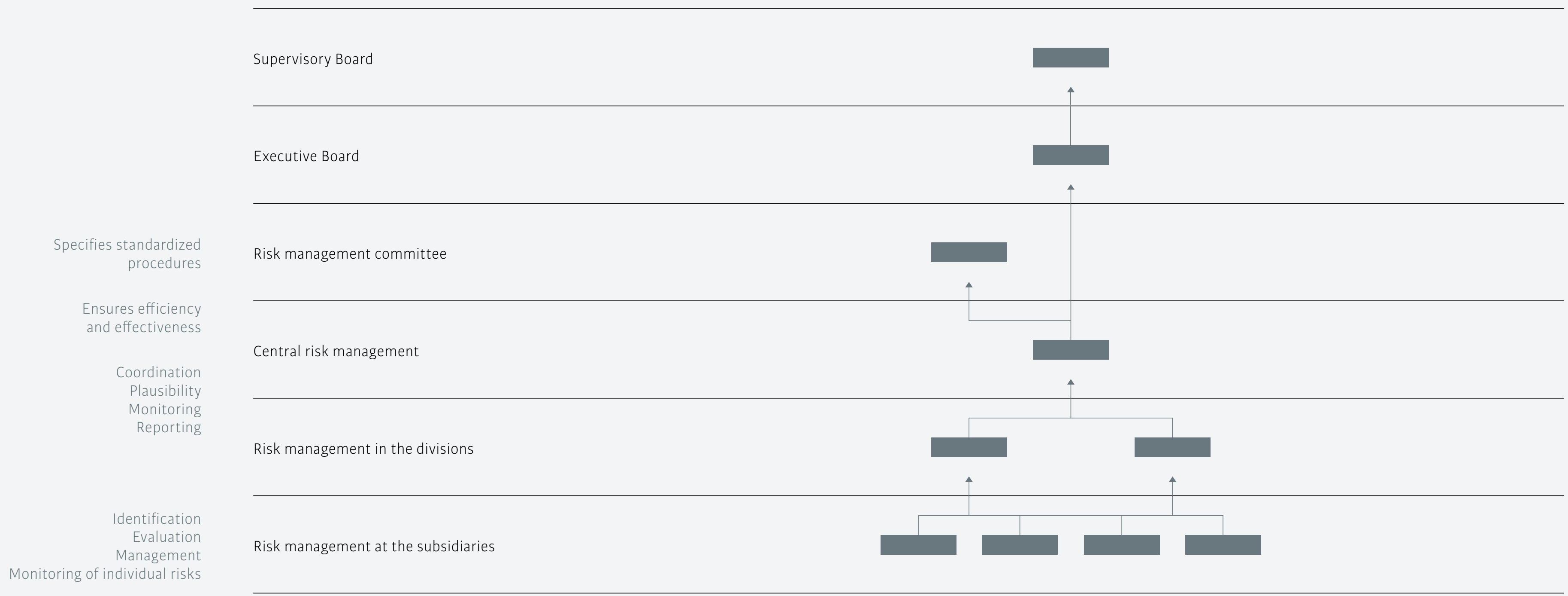
No aggregation is carried out for the opportunities at Group level. For this reason, the opportunities are dealt with in greater detail in the following sections on the divisions.

Group risk exposure

in € millions	2020	2021
Legal risks	11.2	13.5
Economic risks	43.1	103.5
Financial risks	24.4	14.5
Other risks	7.0	9.3
Total for the Group	**85.6**	**140.8**

Detailed explanations of the risk categories listed can be found in the following sections.

Risk management organization



Internal and external auditors check the risk management system and the risk early detection system (RFS)

Operating risks and opportunities of the business segments and KUKA AG

KUKA is exposed to the cyclic investment behavior of its customers in the various market subsectors. A major portion of the divisions' business volume is in the automotive sector where oligopolistic structures and constant price pressure are ongoing concerns. Fluctuations in the industry's capital spending plans are also considered in the respective strategic and operational plans by analyzing public announcements and disclosures. The company continuously strives to be as flexible as possible with its own capacities and cost structure to address the cyclic nature of the business.

In fiscal 2021, KUKA Group was affected by the global effects of the coronavirus pandemic, but was able to profit from the catch-up effects from customers' willingness to invest, both in the automotive industry and in general industry. The slight global economic recovery had a positive impact on the company's business development.

The damage limitation measures taken at KUKA Group in connection with the coronavirus pandemic were able to keep all essential business processes up and running. As the pandemic is ongoing, regulatory intervention to contain the pandemic could mean that the measures taken by KUKA Group are not sufficient. The operating business would be adversely affected, for example, by temporary site closures, supply chain disruptions or even production stoppages. One of the main uncertainties of the coronavirus pandemic is the fact that it is still not possible to estimate the duration (for example, due to mutations or new waves of infection) and the economic impact of post-COVID effects.

KUKA largely succeeded in preventing and mitigating disruptions to the supply chain through proactive risk management. This ensured that customer orders could be executed in their entirety. Nevertheless, there are inherent risks due to insolvencies of suppliers and/or customers, global supply bottlenecks, as well as production disruptions caused by coronavirus cases. The pandemic has also shown, however, that the trend towards automation remains intact, offering opportunities especially in logistics/e-commerce, healthcare, alternative drive systems, but also in non-industrial sectors. KUKA works with suppliers that focus on quality, innovative strength, continuous improvement and reliability so that it can supply its own customers with products of the highest possible quality and ensure timely delivery. Generally, KUKA sources product components from several suppliers in order to minimize the risk of sharp price increases for key raw materials, but in a few cases, due to a lack of alternative sources, is dependent on single suppliers that dominate their markets. Continuous monitoring of supplier risks is conducted as part of the risk management process. This also includes effects on international supply chains, such as those caused by the escalation in the Russia-Ukraine conflict.

Projects within the framework of the digitalization strategy were further advanced, with the coronavirus pandemic even accelerating their implementation.

KUKA Systems

This division's revenues and profits are subject to general business risks due to the length in time it takes to process project orders, the revisions to the specifications that are often necessary during processing, the infrequency of the orders received, and the price and competitive pressures. Other risks associated with these projects include inaccurate prediction of the actual costs as well as penalties for late deliveries. The division therefore uses appropriate risk checklists for individual orders in order to assess the associated legal, economic and technological risks prior to preparing a quotation or accepting a contract. One of the components of project execution, for example, is to monitor and track solvency risks and mitigate them using a strict project and receivables management process. Other risks are continuously monitored and if necessary accounted for by way of accruals or write-downs. Opportunities exist, for example, if unplanned customer change requests have to be implemented during the term of the project or if KUKA can benefit from lower purchase prices for outsourced parts compared to the cost estimate. In 2021, several projects in Europe and the USA were subject to significant additional costs as a result of coronavirus-related and post-COVID supply bottlenecks and delays, but also due to the high complexity of these projects. These effects were taken into account in the amended project calculation and are already included in earnings for 2021 through provisions for impending losses.

Automation requirements in the expansion of global production capacities of the major automobile manufacturers, particularly in the field of electromobility, are currently highly dynamic. KUKA is increasingly working together with internal partners, with several of the division's regional subsidiaries collaborating on a customer project. In these situations, there are risks involved in information exchange, the value-added process and project management across various IT systems. There are also organizational risks associated with extraordinarily rapid and strong growth in business volume, particularly in emerging markets. KUKA mitigates these risks by deploying experienced internal and contract employees when establishing and expanding the local organizations.

The increasing variety of models offered by the automotive industry tends to have a positive impact on the potential market volume, since this generates increasing demand for flexible manufacturing systems, which in turn spurs demand for new or revamped assembly lines. This creates new business opportunities for system providers and subsuppliers. Scarce resources are driving demand for smaller and more fuel-efficient vehicles that will use alternative energy sources. This means automakers, especially American manufacturers, will have to invest in new production lines or upgrade their existing assembly lines in the future.

Pay-on-production contracts such as KTPO's (KUKA Toledo Production Operations) offer additional opportunities, but also risks. The Jeep brand still promises good growth prospects compared to other American car models. KUKA will continue to participate in this growth.

Thorough market analyses have shown that KUKA Systems also has long-term business opportunities outside the automotive industry; namely, in general industry. The main risks here when tapping into new market potential relate to technical requirements, since customers in these sectors often have no experience with automated systems. The aforementioned checklists to review the technical risks associated with applying new automation techniques are therefore an especially important tool for identifying and mitigating risks. Whether or not the targets for 2022 are achieved depends largely on the further course of the coronavirus pandemic and the associated impact on the economy, for example with regard to possible bottlenecks in supply chains. These factors have therefore been included in the risk assessment, and scenarios have been identified to evaluate the risk of delivery delays or material price increases, for example.

Systems risk exposure

in € millions	2020	2021
Legal risks	0.2	0.1
Economic risks	9.9	15.0
Financial risks	0.0	0.0
Other risks	0.0	0.0
Total for Systems	**10.1**	**15.1**

KUKA Robotics

Demands for continuous product innovation from international customers and unrelenting cost awareness are the key challenges for this division's product portfolio; especially when it comes to the automotive industry and its suppliers. The result is permanent price pressure and potentially longer life cycles for the robotic applications combined with demands for ever-improving quality and longer warranties.

KUKA Robotics responds to such trends by continually developing new products and applications that offer customers in existing markets quantifiable financial benefits driven by quick paybacks. Launching new products goes hand in hand with product performance risks and quality guarantees, which could generate additional costs if rework is required. KUKA employs a comprehensive quality management system that includes extensive validation and test processes to detect, avoid and manage such risks.

Rising material prices and supply chain disruptions are likely to pose the greatest risks in 2022, particularly due to the global supply crisis affecting electronic components and semiconductors. The coronavirus crisis will still lead to uncertainties in the robotics business in 2022, but at a significantly lower level than in the previous year. Potential temporary closures of customer locations are included in the risk assessment. In some of the market segments described, however, there are opportunities for faster growth in demand for automation – for example in the consumer logistics industry.

Project postponements and the trimming of model ranges, particularly in the automotive industry, but also structural changes at customers, are creating additional uncertainties. The further diversification of business activities and the focus on high-growth, profitable market segments present an opportunity. One of the company's key strategic thrusts is to penetrate new, non-automotive markets. Increasing diversification across various industries and regions reduces dependencies on individual sectors and can offset existing cyclicalities.

The cell business has come under pressure in recent years due to high project risks and falling market prices. The structure has been adapted to the changed framework conditions. This involved realigning the business model both organizationally and thematically. In addition to projects based on customer-specific solution requests, this includes continued focusing of the project business on modular and standardized cells.

Robotics risk exposure

in € millions	2020	2021
Legal risks	1.7	0.1
Economic risks	23.7	46.1
Financial risks	1.2	0.7
Other risks	0.0	0.0
Total for Robotics	**26.6**	**46.9**

Swisslog

The Swisslog segment broadens KUKA's range of products and services and contributes to independence from the automotive industry. In some cases, projects for the automation of warehouse and distribution centers are subject to long lead times which can give rise to financial risks resulting from miscalculations, failure to meet acceptance specifications or late deliveries. To counter this, regular project risk assessments are carried out at different stages of the projects by those responsible for project implementation in the relevant countries. Potential risks are regularly reviewed, new ones are added or existing ones eliminated, and measures for risk reduction are introduced and their progress documented. Projects requiring particular management attention are classified as "top attention projects" and their status is communicated monthly to the higher management levels.

Supply chain disruptions and other post-COVID effects are seen as the main risks for the coming fiscal year. Different scenarios were considered in this respect and included in the risk exposure. The exposure is a significant part of the economic risks. The trend toward automation in the logistics sector, which is still being driven by the pandemic, is opening up further opportunities. Overall, the economic risks have increased only slightly.

Swisslog risk exposure

in € millions	2020	2021
Legal risks	0.0	0.0
Economic risks	7.0	15.6
Financial risks	6.3	0.0
Other risks	0.0	0.0
Total for Swisslog	**13.3**	**15.6**

Swisslog Healthcare

The Swisslog Healthcare segment also expands KUKA's range of products and services, thereby contributing to independence from the automotive industry. Market data indicate that the increasing pressure on costs and the strict safety requirements for hospital logistics offer high growth potential for automation. Furthermore, consolidated service centers, in which hospitals standardize their logistics processes and achieve cost advantages, generate greater demand for automation solutions. Risks arise from complex technical and regulatory requirements. Risks arise from delayed and postponed investments by customers due to shifts in priorities as a result of the crisis.

Swisslog Healthcare risk exposure

in € millions	2020	2021
Legal risks	0.6	0.4
Economic risks	0.1	0.2
Financial risks	1.7	0.5
Other risks	0.0	0.0
Total for Swisslog Healthcare	**2.4**	**1.1**

China

The China segment comprises all business activities of the Chinese companies in the Systems, Robotics, Swisslog and Swisslog Healthcare divisions. For this reason, the risks arise from the above-mentioned segment and product-specific risks.

As in the other segments, risks remain due to the current geopolitical situation and the effects of the new coronavirus variants, such as travel restrictions or supply chain disruptions, shortages of key materials and pressure on prices. KUKA can only take limited measures to mitigate these risks, which are of a global magnitude. For this reason, KUKA is focusing on trust-based cooperation with local customers and a suitable product portfolio, although certain risks exist in the local research and development of controllers and platforms, for example. The slowdown in economic growth from Q4 2021 onwards has brought with it the risk of significantly lower order volumes and margins. Here, too, KUKA is taking measures to increase selling prices and improve efficiency in the areas of production and project management in order to reduce costs still further.

Also, with regard to the planned higher output in China, associated supply chain risks represent the majority of the increased economic risks.

China risk exposure

in € millions	2020	2021
Legal risks	0.0	0.0
Economic risks	1.4	21.4
Financial risks	2.3	3.6
Other risks	0.0	0.0
Total for China	**3.7**	**25.1**

Risks and opportunities managed at holding level (KUKA AG)

Cross-division opportunities and risks are analyzed and managed at Group level for central functions such as legal matters, taxes, corporate finance and treasury, personnel and IT, rather than by the individual divisions, which is why said risks are only addressed from the Group perspective in the opportunity and risk report. Information about this can be found in the specified sections.

KUKA AG acts as the Group's management holding company, performing central service functions. KUKA AG's result in the separate financial statements depends primarily on the profit transfers of the German subsidiaries and on dividends from the subsidiaries. This gives rise to corresponding opportunities and risks with possible implications for the carrying amounts of investments and the receivables from affiliated companies recognized in the balance sheet.

KUKA AG risk exposure

in € millions	2020	2021
Legal risks	8.7	12.9
Economic risks	1.1	5.2
Financial risks	12.9	9.7
Other risks	7.0	9.3
Total for KUKA AG	**29.6**	**37.1**

Strategic risks and opportunities

KUKA's business segments aim to be among the market and technology leaders in their target markets. The key to achieving this is to consistently enhance their core technologies on the basis of coordinated innovation programs. One important task is to identify opportunities and risks associated with innovations early and to evaluate the innovations' manufacturability. The company mitigates the impact of faulty market assessments by conducting regular market and competitor analyses, some of which are decentralized. Application-related developments, system partnerships and cooperative ventures reduce the risk of development work not conforming to market requirements. Strategic risks and opportunities are not quantified.

Legal risks and insurance

Since KUKA conducts business around the world, it is obliged to comply with many international and country-specific laws and regulations issued, for example, by tax authorities. The company employs specialists familiar with the respective countries' laws on a case-by-case basis. Opportunities and risks arise as a result of changes to legal frameworks. For example, tax audits discovering non-compliance issues could negatively impact the Group in the form of payment of interest charges, penalties and back taxes. These changes and the resultant risks are continuously monitored; at the present time, however, there are no foreseeable tax or legal issues that could have a significant negative impact on KUKA Group. Appropriate provisions have been recognized for tax risks based on experience.

Standard general contracts are used whenever possible to cap risks from contractual relationships. The Group's legal department supports the operating companies to help limit risks associated with in-house contracts, warranty obligations and guarantees as well as country-specific risks such as a lack of patent and brand protection. KUKA has developed an independent strategy to safeguard its intellectual property, which is primarily secured by patents and trademark rights. In addition, product compliance processes have been established and are closely monitored.

In the context of insurance/risk management, sufficient property insurance, loss-of-profits insurance, public, product and environmental liability insurance and transportation insurance are maintained centrally for the Group amongst other policies. D&O insurance (directors and officers liability insurance) is also in place. Existing insurance policies are reviewed annually in order to ensure sufficient cover and to weigh the relationship between the insurance protection and deductibles against the risk premium.

Financial risks

KUKA Group is under the financial control of KUKA AG. The primary objectives of financial management are to secure the liquidity and creditworthiness of the Group, thus ensuring financial independence. Effective management of foreign exchange, interest rate and default risk also serves to reduce earnings volatility.

KUKA AG identifies, coordinates and manages the financial requirements of the Group companies and optimizes the financing of the Group. For this it employs a Group-wide standard treasury management and reporting system. KUKA AG normally procures finance centrally and distributes the funds among the Group companies. In addition, liquidity risk is reduced for KUKA Group by closely monitoring the Group's companies and their management of payment flows.

KUKA pursues a conservative financing policy with a balanced funding portfolio. This is essentially based on the promissory note loans (Schuldschein) issued in 2015 and 2018 with staggered maturities up to 2023, on an inter-company loan concluded with Midea in December 2019 with a term until 2025, and on a syndicated loan refinanced in 2018 with a term until 2025 and providing cash credit facilities and guarantee lines. Two standard financial covenants (leverage and interest coverage ratio) have been agreed for the syndicated loan. Furthermore, KUKA has access to a credit line concluded with Midea in 2018, which also has a term until 2025. Beyond these financing agreements, additional financing options are available to KUKA within the terms of factoring framework agreements. Comprehensive details of the financing instruments and the extent to which the agreed credit lines have been utilized can be found in the notes to the annual financial statements, in the section "Financial liabilities/Financing".

KUKA hedges the interest rate and exchange rate risks from operations and financial transactions with financial derivatives. Transactions in financial derivatives are exclusively entered into for hedging purposes, in other words always with reference to and for hedging underlying transactions. Whenever possible, KUKA AG is the central hedging partner of the Group companies, and it in turn hedges the Group's risks by concluding appropriate hedging transactions with banks. Internal policies govern the use of derivatives, which are subject to continuous internal risk monitoring. For a more precise description of our risk management objectives and the methods employed please refer to the notes on financial risk management and financial derivatives.

Currency translation risks, i.e. measurement risks associated with balance sheet and income statement items in foreign currencies, are not hedged, but are continuously monitored. The risk associated with the volatility of leading currencies and the resulting economic exchange risk (competitive risk) is mitigated by having production facilities in several countries (natural hedging).

Political risks

The political framework conditions, such as the trade war between the USA and China, the tensions with Russia and the associated situation on the commodities markets, also have an impact on KUKA's business success. The resulting risks have been identified, analyzed and assessed, but not yet finally quantified. Risks have currently been identified with regard to the supply chain, commodity prices and sales markets as a result of the Russia-Ukraine conflict. These cannot be reliably assessed at present. From the Group's current perspective, the risks to its direct operating business are low. However, we expect prices for raw materials, semi-finished and finished goods to rise. The risks arising from this conflict are being monitored and assessed on an ongoing basis.

Personnel risks and opportunities

The success of KUKA Group, a high-tech enterprise, depends to a great degree on having qualified technical and management staff. Personnel risks arise mainly from employee turnover in key positions within the Group. Due to the current general conditions, there is a risk of higher fluctuation, which could lead to shifts in competencies. KUKA is countering this risk, not least by means of in-house continuing education programs such as those offered by KUKA Academy and through modern, flexible working conditions, in order to boost the satisfaction, motivation and qualification of the workforce. This also opens up opportunities for the recruiting of new employees.

IT risks and opportunities

IT risks have risen over the past number of years owing to the importance of IT to business processes. These risks relate to both the frequency of virus attacks or hacking and the damage they could potentially cause. These risks, also referred to as cyber risks, are included and assessed in the current risk inventory. The existing IT security and business continuity management systems as well as policies and organizational structures are regularly optimized and reviewed in an effort to predict and minimize possible IT-related risks such as failure of computer centers or other IT systems. One way this is addressed is by continuously upgrading hardware and software. Furthermore, KUKA has launched several transformation projects which are currently running with the objective of harmonizing processes and the supporting IT application system architecture throughout the Group. This will generate long-term cost reduction potential and lead to continuous quality improvements. By systematically monitoring the processes concerned, the company reduces the risks associated with an increasing number of external threats as well as dependence on the ever-expanding digitalization of business processes.

Risks in the area of information security and data protection are continuously monitored and analyzed, as they can result in considerable risks for the Group due to changes in the legal framework.

Compliance risks

Compliance violations can have far-reaching consequences, resulting in long-term damage to the company and restricting its economic success. In addition to high fines and compensation payments, exclusion from tenders, disgorgement of profits and criminal law repercussions are possible. KUKA's image as a business partner of integrity could also be tarnished. This can have a negative effect not only on customer relationships, but also on business relationships of all kinds. Consequently, strategic projects, transactions and capital market measures could suffer as a result.

In order to counter these risks in a transparent and appropriate manner, the Group-wide Corporate Compliance Program was set up in 2008. Details can be found in the Corporate Compliance Report.

The Compliance Committee established through this program holds regular ordinary meetings as well as extraordinary meetings as required. The members have a wide-ranging and in-depth wealth of experience in both the company and the industry. This enables them to assess risks carefully and adequately.

The committee is chaired by the Chief Compliance Officer, who reports to KUKA Aktiengesellschaft's CEO, who in turn reports to the Supervisory Board's Audit Committee.

The CEO is ultimately responsible for the Corporate Compliance Program, which is updated as required and subject to strict internal controls. The Corporate Compliance Program is integrated into daily work by means of the comprehensive processes and measures of the Compliance Management System.

No substantial compliance risks were identified in 2021 due to the active countermeasures taken by KUKA to mitigate risk at an early stage and to eliminate risk sources, for example, by realigning processes and adapting training to specific target groups.

Other risks

KUKA Group continuously monitors other risks and mitigates these to the greatest extent possible. Possible risks to the environment due to operational activities are predominantly attributable to the use of hazardous substances. Waters and soils can also be adversely affected by the legal disposal of waste, or even by unforeseeable accidents. Such events cannot be completely ruled out despite all precautionary measures taken. KUKA therefore takes wide-ranging preventive measures to ensure continual minimization of the potential environmental impact. Most of our production locations work according to internationally recognized management system standards in the areas of environment (ISO 14001), energy (ISO 50001), quality (ISO 9001) and other industry-specific regulations, for example, VDA 6 Part 4. For many years, KUKA has had a cross-location environmental management system. Risks resulting from climate change are also analyzed and assessed on an ongoing basis, such as extreme weather events like storms, hail or floods. In addition, we regularly monitor changes in the legal framework for environmental and climate protection in order to identify potential risks at an early stage. The Group owns some of the buildings and properties that it uses for its business operations. As a result, the company is exposed to risks associated with any residual pollution, soil contamination or other damaging substances that may be discovered on its properties. There is currently no evidence of any situations that would have a negative impact on the measurement of balance sheet items. However, it cannot be ruled out that any such situations, which could, for example, require costly clean-up operations to be undertaken, will occur in the future. At the locations, risks relating to fire protection, water and media supply, static and construction defects are regularly investigated. These are assessed by experts and measures are taken to minimize the risk.

Summary

In the overall assessment of risks, KUKA Group is primarily exposed to performance-related risks from the divisions and to legal and financial risks controlled at Group level. Despite a significant increase in potential risks, such as those arising from the effects of the coronavirus pandemic and the associated disruption to supply chains, which have been identified and evaluated in the risk management system, the Management Board is not aware of any individual or aggregated risks that could threaten the company's existence. Strategically and financially, the company is positioned to be able to take advantage of business opportunities.

Forecast

General economic environment

The coronavirus pandemic has been a burden on society and the global economy for almost two years now. The outlook has improved in 2021 with the result that the OECD expects the global economy to recover, but remains cautious. There are still enormous uncertainties and risks. These include the Russia-Ukraine conflict but also the ongoing global supply difficulties. Despite a very good order situation, many industrial companies are under pressure and finding it difficult to meet demand. The price increases in the supply chain can hardly be passed on to customers and pose challenges for small and medium-sized companies in particular. Moreover, the renewed rise in coronavirus infection rates and the associated consumer uncertainty are once again slowing the economic recovery. Added to this are high inflation rates, which are dampening the mood on the markets. Fears of a further escalation in the Russia-Ukraine conflict and the economic consequences of the sanctions are weighing on the world economy and the global growth outlook. Potential impacts include continued pressure on global supply chains, increased risks from cyberattacks, and rising commodity and energy prices, which are heightening inflation concerns. As a result of inflation, central banks could raise interest rates earlier than planned. Overall, a prolonged period of uncertainty is to be expected, which could impact growth prospects.

In its Economic Outlook, the OECD raised its forecast for the global economy for 2022 slightly from 4.4 percent (OECD Economic Outlook May 2021) to 4.5 percent (OECD Economic Outlook December 2021). The growth forecast was confirmed in the December outlook, but growth will be unevenly distributed. The forecast for the euro zone was still 4.4 percent in May 2021 and was lowered to 4.3 percent in the December outlook. For Germany, the outlook was reduced from 4.4 percent in May 2021 to 3.9 percent in December 2021. The forecast is influenced primarily by the global uncertainties and risks outlined above. The forecast for economic development in the United States was raised slightly for 2022. The growth outlook was 3.6 percent in May 2021 and was increased slightly to 3.7 percent in December 2021. A strong recovery in Europe, the probability of additional fiscal support in the United States next year, and a lower household savings rate are having a positive impact on growth prospects in the industrialized countries. For the Chinese economy, the OECD lowered the growth outlook from 5.8 percent in May 2021 to 5.1 percent in December 2021.

For the coming years, the OECD forecasts a considerable increase in government spending on health, long-term care and pensions due to the aging population and the rising cost of services. In order to cushion the impending costs, the OECD recommends that countries implement structural reforms that will lower the unemployment rate and reduce the number of early retirements.

Automation & digitalization

Increasing complexity, growing numbers of variants with fluctuating production volumes, new technologies and ever-increasing global competition (in terms of prices) are presenting manufacturing companies with new challenges. Manufacturers therefore require flexible automation solutions in order to adapt quickly to a changing environment and continuously improve efficiency. In many production and material flow processes, the role of a robot has thus changed significantly in recent years. In the past, isolated robots were used to automate individual tasks and process steps behind safety fences. Automation has traditionally been a complex task, from programming through to commissioning. The trend today is to lower the barriers to entry for automation by simplifying installation, deployment and operation, improving software and safety functions, and reducing costs. This leads to increased productivity and flexibility. Trends in technology, such as digitalization, machine learning and artificial intelligence, are accelerating these developments.

In the medium term, global megatrends such as the increasing customization of products, digitalization, demographic change, but also increased regionalization will continue to intensify, primarily as a result of the experience gained from the coronavirus crisis and trade disputes. This experience shows how important new business models are becoming which enable customers to flexibly adapt their processes to rapidly changing market needs. Logistical and political risks could thus be minimized. With increasing regionalization, local capacities are being built up and the demand for intelligent automation solutions is growing. Especially in high-wage countries, companies are compelled to produce at high efficiency levels in order to remain internationally competitive. In addition, the growing demand for customized products will further increase the degree of automation. This calls for new business models that will fundamentally and lastingly transform not only production in the future, but also the value creation process as a whole.

In the long term, robot installations will increase worldwide. This development is supported by robots which can perform activities around the clock that are dangerous or harmful to humans. The increasing digitalization of production facilities and the stronger focus on energy efficiency will also have a positive impact. With technological advancements such as human-robot collaboration and easy programming, additional new applications and markets will emerge. So-called cobots can work safely alongside humans by stopping automatically as soon as an obstacle enters their workspace. The further development of sensor and vision technologies allows robots to react to changes in their environment in real time. Whereas traditional industrial robots operate quickly and are primarily important for increasing productivity, cobots will assist humans in their work. In addition, the use of easily programmable robots will expand the spectrum of applications, especially in the case of frequent changes in the production process. Combined with mobile platforms, this will open up a whole new range of possibilities in automation. Additionally, more and more robot manufacturers have recognized that the total cost of ownership (TCO) is still considered as too high by many potential customers. The development of robots with lower energy consumption reduces not only the carbon footprint, but also the operating costs.

The IFR predicts a compound annual growth rate (CAGR) of 6 percent for global robot installations from 2021 to 2024, according to its forecast in the World Robotics Report of October 2021. Catch-up effects will have a positive impact on market growth in 2021, which should lead to an increase of 13 percent. These effects will weaken again in 2022 or 2023, with the result that a slight temporary decline is expected. For 2024, the IFR forecasts a renewed increase, and the number of robots installed worldwide could exceed the threshold of 500,000. The US economy is expected to grow at a disproportionately high rate, with a CAGR of 10 percent. The forecast for Europe is 2 percent, with growth predicted to be strongest in Central and Eastern Europe and in Spain. On average, no growth is expected for Germany (0 percent). The Asian market, especially China, continues to be the growth driver. The CAGR in China is forecast at 7 percent. An average growth rate of 6 percent is expected for the Japanese market and a CAGR of 8 percent for Korea.

In many countries, direct and indirect subsidies for digitalization of local production offer opportunities for automation. For example, the EU has earmarked several billion euros for digitalization with its “NextGenerationEU” plan.

Automotive

As a result of the transformation from fossil fuel-burning combustion engines to new, sustainable drive technologies, the automotive industry is facing the biggest change in its history. This change will also affect the supplier industry. According to a study entitled “The Transformation of German Automotive Suppliers towards Electromobility” conducted by Deloitte and the German Automotive Industry Association (VDA) in August 2021, more than 80 percent of suppliers expect electromobility to prevail as the technology of the future. The majority of suppliers have already adapted to this and started converting to electromobility. However, this also means that suppliers are facing high investments and thus major challenges. Consequently, companies require planning security above all, which the VDA believes goes hand in hand with the political and economic framework conditions, such as the expansion of renewable energies, the charging infrastructure and the training of skilled workers.

Germany is already the world’s third-largest producer of electric vehicles, and German manufacturers have been able to expand their market shares for electric vehicles in all major regions. In Europe, German manufacturers account for more than half of all new electric vehicle registrations. They plan to invest 150 billion euros in future technologies by 2025. From January to November 2021, new registrations of electric vehicles in Germany even rose by 92 percent year on year to 600,700 units. The share of electric cars in the overall market was 25 percent from January to November 2021. The strong growth could be slowed down, however, by a lack of charging facilities in Germany. In July 2021, the VDA predicted that more than 1 million charging points for e-cars and e-transporters will be required in Germany by 2030.

Moreover, worldwide supply bottlenecks, especially for semiconductors, have also impacted global automotive production. Due to a shortage of parts, production at numerous automotive plants had to be partially halted. This also had a negative impact on Germany’s export figures. The global supply chain situation is only expected to ease during the course of 2022.

Non-automotive

The customers of mechanical and systems engineering companies expect efficient production and logistics processes in the manufacture of individualized products, and this at competitive prices. Automated solutions can help make processes more flexible, faster and more efficient. Growth opportunities here are primarily offered by markets outside the automotive industry. Despite the worldwide increase in robot installations in the non-automotive sector during the past few years, robot densities (number of robots per 10,000 workers) are still at a low level. In Germany, the non-automotive robot density was equivalent to 216 robots per 10,000 workers according to the October 2021 IFR report. By comparison, the automotive industry had a robot density of 1,395 robots. In the USA, the robot density rose to 157 in general industry and 1,528 in the automotive industry. In China, the world’s largest robot market, the robot density in non-automotive markets was only 126 and in the automotive industry 1,150 per 10,000 workers.

In 2020, the electronics industry became the largest customer group for robot-based automation with approximately 109,000 robots installed worldwide. On average, annual sales of robots in the electronics industry increased by 11 percent between 2015 and 2020. Contributing factors are the high demand for electrical products and components as well as increasing investments in infrastructure, particularly in 5G technologies. The electronics industry operates under strong margin pressure and very strict production and quality standards. Robots are particularly suitable for processing very small parts at high speeds and at the same time with high precision, around the clock. This enables manufacturers in the electronics industry to guarantee the required quality with high throughput and to produce at competitive prices. With intelligent end effectors and vision technologies, the areas of application can be expanded still further.

New technologies enabling the simpler operation of robots, for example, are also providing a boost to automation. This increases the attractiveness of automation solutions in production and logistics environments that have previously not been automated to any great extent. But also the strong growth of sectors such as e-commerce offers opportunities for automation. Ever more goods are being ordered online and customers want delivery times to be as short as possible. As a result, the demands on warehousing are becoming increasingly complex in the efforts to fulfill the growing number of incoming orders even faster. The cost and competitive pressures in e-commerce are intense and companies that do not adapt quickly enough to the dynamic environment will be forced out of the market. Consequently, efficient automation solutions are in greater demand as a means of remaining competitive.

China

While the Chinese economy was already slowly recovering in 2020, Europe and North America were still in the midst of the coronavirus crisis. Consequently, China was the only country to report an increase in the numbers of robots installed. According to the IFR, the installations even increased by 20 percent in 2020. With its high growth rates, the Chinese market remains the largest robotics market in the world. 168,377 robots were installed in China in 2020 according to the IFR. This is the highest figure ever recorded in any country. The installed base increased to 943,000 units, up 21 percent on the previous year. Meanwhile, 44 percent of all robots installed worldwide are in China. The automotive industry was primarily responsible for the strong growth over the past ten years. However, non-automotive markets have caught up and since 2016, the electronics industry has overtaken the automotive industry as the largest purchaser of industrial robots. Both Chinese and international manufacturers have expanded their production capacities in China.

China’s economic development continues to progress. As wages have risen, purchasing power in the country has increased and the middle class has expanded. Industries have increased their capacities and installed modern automation technologies in order to keep up with rising demand. This development has had a positive impact on robot density per year, which has risen by an average of 37 percent from 51 to 246 units since 2015.

The long-term market outlook remains positive. The Chinese government plans to develop the country into a leading global high-tech manufacturing landscape. However, the increase in automation over the last few years is not attributable to government support alone, but also to increased wages, higher quality standards and more environmentally-friendly production processes. Existing factories are being modernized and new factories are being built to take advantage of the rapidly growing market.

Due to its high growth potential, the Chinese robot and automation market is a core element of KUKA’s growth strategy. KUKA plans further expansion of its market shares in China. For 2022, the IFR expects a slight increase of 1 percent in installed robots in China. Due to the strong increase in the previous year, the growth forecast for 2022 is at a low level.

Summary *

The outlook for the global economy is subject to major uncertainties and risks. A prolonged period of uncertainty is expected, mainly due to the Russia-Ukraine conflict, which could impact growth prospects. In addition, there are still major uncertainties as a result of the ongoing global supply difficulties, which could affect KUKA's business performance in 2022. Material shortages and supply bottlenecks not only lead to price increases, but they also make it difficult to reliably plan the availability of necessary components for production and project execution.

KUKA is active in various currency areas around the world. Its key financial indicators are therefore exposed to the influence of changes in exchange rates (transaction and translation risks). The currencies of importance to KUKA are presented in detail in the notes. The handling of interest rate and currency risks in KUKA Group is described in the opportunity and risk report and in the notes. Possible effects due to the escalation in the Russia-Ukraine conflict are not included in the current forecast.

Anticipated business development in KUKA Group

in € millions	2021	2022 expectations
Orders received	3,565.3	slightly above prior-year level [1]
Sales revenues	3,286.2	slightly above prior-year level [1]
EBIT margin	1.9%	rising
Earnings after taxes	49.4	above prior-year level [1]
Free cash flow	100.4	positive/below prior-year level [1]

[1] Definitions:

Slightly above/below prior-year level: absolute change compared to prior year < ±10%

Above/below prior-year level: absolute change compared to prior year ≥ ±10%

At prior-year level: absolute change compared to prior year: ≤ ±3%

Orders received, sales revenues and EBIT margin

The forecast for orders received in the full year 2022 is slightly above the prior-year level. For sales revenues, KUKA expects the figure to also be slightly above the prior-year level. The anticipated EBIT margin will be in the low single-digit percentage range in 2022.

Earnings after taxes

In the 2021 fiscal year, KUKA Group reported earnings after taxes of €49.4 million. For 2022, KUKA expects earnings after taxes at Group level to be above the prior-year level.

Free cash flow

KUKA Group's free cash flow is primarily generated from operating profits and the development of working capital. For 2022, free cash flow is expected to be positive but below the prior-year level.

KUKA AG

KUKA AG's result in the separate financial statements depends mainly on the profit transfers of the German subsidiaries and on dividends from subsidiaries. Net income for the year is the most important performance indicator. KUKA Aktiengesellschaft expects a significant improvement in net income compared to the previous year.

* The forward-looking statements are based on the information, expectations and estimates of the company available at the time the forecast report was prepared.

Internal control and risk management system

Basic principles

Pursuant to section 289 para. 4 and section 315a sentence 1 of the German Commercial Code (HGB), KUKA Aktiengesellschaft, as a publicly traded parent company, must describe within the management report the key characteristics of its internal control and risk management system with regard to the accounting process. The description must include the accounting processes of the companies included in the consolidated financial statements.

The risk management system comprises all organizational rules and measures related to identifying risk and dealing with entrepreneurial risk (see the opportunity and risk report). The internal control system is an integral part of the risk management system.

The internal control system (ICS) comprises all principles, processes and measures introduced to the company by management that result in systematic and transparent risk management. The focus here is on the organizational implementation of management decisions made to ensure the effectiveness and efficiency of business operations (for example, the protection of assets, including the prevention and detection of asset misappropriation), the correctness and reliability of internal and external accounting, and compliance with the legal provisions applicable to the company.

The objective of the ICS is to obtain sufficient certainty using the implemented controls to monitor and manage risks so that the company's goals can be achieved. Various monitoring measures – both integrated into and independent of the processes – contribute to the preparation of annual and consolidated financial statements that are in conformity with the legal provisions.

Regardless of its specific form, an ICS is unable to provide absolute certainty as to whether it will achieve its objectives. Taking this into account, the accounting-related ICS can only provide relative certainty rather than absolute certainty that material misstatements in accounting will be avoided or detected.

Structures and processes

With regard to the accounting process, the structures and processes described below have been implemented in KUKA Group. The Management Board of KUKA Aktiengesellschaft bears full responsibility for the scope and design of the ICS.

The system extends via clearly defined management and reporting structures to all subsidiaries that are included in the consolidated financial statements.

The accounting and human resources activities for the German companies are mainly performed centrally at the Shared Service Center of KUKA Aktiengesellschaft.

Intra-group tasks such as treasury, legal services and taxes are also largely performed centrally by KUKA Aktiengesellschaft on the basis of uniform Group processes.

The principles, organizational structures and processes of the (Group) accounting-related internal control and risk management system are defined in policies and organizational procedures. Adjustments based on external and internal developments are integrated on a continuous basis and made available to all employees concerned.

Characteristics of the accounting-related internal control and risk management system

With respect to the accounting process, we regard those characteristics of the internal control and risk management system as material that can significantly impact the accounting and the overall presentation of the consolidated and annual financial statements, including the consolidated management report. At KUKA Group, these include, in particular:

- Identifying the main areas of risk (see the opportunity and risk report) and control that affect the (Group) accounting process;
- Quality controls to monitor the (Group) accounting process and the accounting results at the level of the Group Management Board, the management companies and individual reporting entities included in the consolidated financial statements;
- Preventive control measures in the finance and accounting systems of the Group and the companies included in the consolidated financial statements as well as in operating business performance processes that generate key information for the preparation of the consolidated and annual financial statements and the consolidated management report, including a separation of functions of predefined approval processes in relevant areas;
- Process-integrated monitoring measures such as the principle of dual control for which each material business transaction must be signed or otherwise approved by at least two authorized persons;
- Measures to ensure proper, IT-supported processing of (Group) accounting-related facts and data. These include, for example, central management of access rights to the bookkeeping systems and automated plausibility checks when data are recorded in the reporting and consolidation system;
- Definition and monitoring of the implementation of control requirements for the accounting-related ICS, carried out by the central Group ICS department, which remains independent of the processes. By means of a defined procedure, the internal controls are documented by the responsible departments and then examined by independent parties – normally the Group ICS department – for functional capability and effectiveness. Any weak points in the control system are targeted through action plans, whose implementation is monitored. Significant control weaknesses and the implementation of action plans are reported to the Management and Supervisory Boards.

Internal Audit constitutes an additional control entity that is independent of processes and regularly reviews the organizational structures, processes and orderliness in addition to the defined ICS requirements, thus contributing to compliance with the ICS and risk management system.

In addition, the CFOs of all subsidiaries must provide an internal responsibility statement in the context of external reporting every quarter, confirming that the data reported are correct. Only then do the members of the Management Board of KUKA Aktiengesellschaft issue and sign a responsibility statement at year-end,

In its meetings, the Audit Committee of the Supervisory Board regularly reviews the effectiveness of the accounting-related internal control system and obtains an appropriate view of the Group's risk situation. In so doing, the Management Board of KUKA Aktiengesellschaft presents the risks associated with financial reporting at least once per year, outlines the control measures implemented, and monitors their correct execution.

Summary

The structures, processes and characteristics of the internal control and risk management system that have been depicted ensure that the accounting processes of KUKA Aktiengesellschaft and KUKA Group are uniform and are implemented in accordance with the legal requirements, generally accepted accounting principles, international accounting standards and internal Group policies.

They also ensure that transactions are recognized and measured uniformly and accurately throughout the Group and that accurate and reliable information is therefore provided to the internal and external recipients of the information reported.

Disclosures in accordance with section 289a sentence 1 and section 315a sentence 1 of the German Commercial Code (HGB) including accompanying explanations

The supplementary disclosures required by sections 289a sentence 1 and 315a sentence 1 of the German Commercial Code (HGB) are presented as at December 31, 2021 and explained in the following.

Composition of subscribed capital

As at December 31, 2021, the total share capital of KUKA Aktiengesellschaft amounted to €103,416,222.00 and consisted of 39,775,470 no-par-value bearer shares with pro rata share capital of €2.60 per share. The share capital is fully paid up. All shares have equal rights and each share guarantees its holder one vote at the Annual General Meeting. Shareholders are not entitled to have share certificates issued for their shares (section 4 para. 1 of the Articles of Association). When new shares are issued, the start of profit sharing may be established at variance with section 60 para. 2 of the German Stock Corporation Act (AktG) (section 4 para. 3 of the Articles of Association).

Restrictions affecting voting rights or transfer of shares

There are no restrictions affecting voting rights or transfer of shares.

Shareholdings that exceed 10% of the voting rights

According to the German Securities Trading Act (WpHG), any investor who reaches, exceeds or falls below the voting rights threshold pursuant to section 33 of the WpHG through purchase, sale or by other means is obliged to report this to the company and the German Federal Financial Supervisory Authority (BaFin).

As at December 31, 2021, KUKA Aktiengesellschaft has received information from the following investors whose direct or indirect shareholdings in the capital of KUKA Aktiengesellschaft exceed 10% of voting rights:

Midea Group

1. Midea Electric Netherlands (I) BV	81.0387%	directly
2. Midea Electric Netherlands (II) BV	14.2760%	directly
3. Guangdong Midea Electric Co., Ltd.	95.3147%	allocated
4. Midea Group Co., Ltd.	95.3147%	allocated

Midea Group Co. Ltd. which indirectly holds more than 95% of the voting rights via the above-mentioned subsidiaries, sent a letter on November 23, 2021 with the formal request pursuant to section 327a of the German Stock Corporation Act (AktG) that the Annual General Meeting of KUKA Aktiengesellschaft should resolve to transfer the shares of the remaining shareholders to Guangdong Midea Electric Co., Ltd. in return for an appropriate cash compensation (a so-called squeeze-out).

Shares with special rights that confer powers of control

There are no shares with special rights conferring powers of control.

Method of voting rights control when employees hold an interest in the share capital and do not directly exercise their rights of control

No employees hold an interest in the share capital within the meaning of section 289a sentence 1 no. 5 and section 315a sentence 1 no. 5 of the German Commercial Code (HGB).

Legal provisions and provisions of the Articles of Association regarding the appointment and dismissal of Management Board members and amendments to the Articles of Association

Pursuant to section 6 para. 1 of the Articles of Association, the company's Management Board must consist of at least two persons. The Supervisory Board determines the number of Management Board members (section 6 para. 2 of the Articles of Association). The appointment and dismissal of members of the Management Board are governed by sections 84 and 85 of the Stock Corporation Act (AktG), section 31 of the Co-Determination Act (MitbestG) and section 6 of the Articles of Association.

Pursuant to sections 119 para. 1 no. 5 and 179 para. 1 of the Stock Corporation Act (AktG), any changes to the Articles of Association require a resolution by the Annual General Meeting. Section 22 para. 1 of the Articles of Association states that a simple majority of the share capital represented at the Annual General Meeting is sufficient to pass a resolution, provided that a greater majority is not required by law. A greater majority is required in particular for resolutions on changes to the company's business purpose, reductions in the share capital and changes to the form of incorporation.

Pursuant to section 11 para. 3 of the Articles of Association, the Supervisory Board is authorized to make amendments to the company's Articles of Association that only affect the wording.

The resolution passed at the Annual General Meeting held on May 29, 2019 also authorized the Supervisory Board to amend the wording of section 4 para. 1 and 5 of the Articles of Association following complete or partial increase of the share capital in accordance with utilization of Authorized Capital 2019 and, if Authorized Capital 2019 has not been fully used by May 28, 2024, following expiration of the authorization.

The Supervisory Board was also authorized by the resolution passed at the Annual General Meeting of May 29, 2019 to amend the wording of section 4 para. 1 and 6 of the Articles of Association as per the respective issue of shares offered under the stock option plan and all other associated amendments to the Articles of Association that only affect the wording. The same applies in the event that the authorization to issue bonds is not exercised after expiry of the period of authorization, or to the extent that Conditional Capital 2019 has not been utilized at the time of expiry of the option or conversion rights, or deadline for fulfillment of the conversion or option obligations.

Management Board authorization to issue and buy back shares

Authorized capital

As per the resolution of the Annual General Meeting on May 29, 2019 and section 4 para. 5 of the company's Articles of Association, which was added on the basis of this resolution, the Management Board, subject to approval by the Supervisory Board, is authorized to increase the company's share capital on or before May 28, 2024 by up to €31,024,866.60 through the issue of new shares in exchange for contributions in cash or in kind in multiple tranches (Authorized Capital 2019). The shareholders shall be granted subscription rights.

The new shares may also be underwritten by one or more financial institutions or by enterprises operating according to section 53 para. 1 sentence 1 or section 53b para. 1 sentence 1 or para. 7 of the German Banking Act (KWG), as specified by the Management Board, subject to the obligation that they are offered to the shareholders for subscription (indirect subscription right). However, the Management Board shall be authorized, subject to approval by the Supervisory Board, to exclude fractional amounts from shareholder subscription rights and to exclude shareholder subscription rights if a capital increase in exchange for contributions in kind takes place for the purpose of acquiring companies or parts of companies or interests in companies or other assets (including third-party claims against the company). Subject to approval by the Supervisory Board, the Management Board shall be further authorized to exclude shareholder subscription rights in the event of Authorized Capital 2019 being utilized once or several times in exchange for cash contributions up to a capital increase amount. This may not exceed 10% of the existing share capital at the time this authorization comes into effect and – if this value is lower – at the time this authorization is exercised, so that the new shares can be issued at a price that is not significantly lower than the stock market price of the company's shares already listed at the time the issue price is finalized. Shares sold as a result of, and during the term of, the authorization granted at the Annual General Meeting of May 29, 2019 in accordance with section 71 para. 1 no. 8 sentence 5 AktG in conjunction with section 186 para. 3 sentence 4 AktG shall count towards the aforementioned 10% threshold. Furthermore, this 10% threshold shall also include shares issued for the purpose of servicing warrant or convertible bonds, participation rights or participating bonds or a combination of these instruments, provided that these instruments were issued as a result of, and during the term of, an authorization granted at the Annual General Meeting of May 29, 2019 in accordance with the appropriate application of section 186 para. 3 sentence 4 AktG.

The Management Board is authorized, subject to approval by the Supervisory Board, to stipulate other details regarding the capital increase and its execution, in particular with regard to share rights and the terms and conditions relating to the issuance of shares.

Conditional capital

Section 4 para. 6 of the Articles of Association stipulates a conditional increase in share capital by up to €15,512,432.00, divided into up to 5,966,320 no-par-value bearer shares (Conditional Capital 2019).

The conditional capital increase will be applied to grant no-par-value shares when conversion or option rights are exercised (or upon fulfillment of corresponding option / conversion obligations) or when KUKA Aktiengesellschaft exercises its option to grant no-par-value shares of KUKA Aktiengesellschaft instead of paying wholly or partially the monies due to the holders of conversion or warrant bonds, participation rights or participating bonds (or a combination of these instruments), issued by KUKA Aktiengesellschaft or a dependent Group company up to May 28, 2024 in exchange for cash contributions as a result of the authorization granted by the shareholders at the Annual General Meeting of May 29, 2019. Furthermore, new shares will be issued according to the condition in the aforementioned authorization resolution at the option or conversion price to be determined respectively. The conditional capital increase shall only be conducted in the event of an issue of bonds to which option or conversion rights or obligations are attached in accordance with the authorization by shareholders at the Annual General Meeting of May 29, 2019 and only to the extent that option or conversion rights are exercised or to the extent that holders of bonds obligated to convert or exercise their options fulfill their conversion or option obligations, or to the extent that KUKA Aktiengesellschaft exercises its option to grant no-par-value shares of KUKA Aktiengesellschaft wholly or partially instead of paying the monies due and provided in each case no cash settlement is granted or treasury shares or shares of another listed company are used to service the bonds. The new shares issued shall participate in the profits as of the beginning of the financial year in which they are issued. The Management Board is authorized, subject to approval from the Supervisory Board, to define the further details of the execution of the conditional capital increase.

Acquisition of treasury shares

As per the resolution passed by the Annual General Meeting on May 29, 2019, the company is authorized, until May 28, 2024, to buy back its own shares in an amount not to exceed 10% of the share capital existing at the time the resolution was passed via the stock market or in the form of a public purchase offer addressed to all shareholders by the company. In doing so, the purchase price (excluding transaction costs) may not be more than 10% higher or lower than the average stock market price defined in detail in the authorization.

The company may exercise this authorization in whole or partial amounts, once or several times; however, it may also be executed by dependent companies or companies in a majority holding of the company, or through a third party on behalf of the company or its dependants.

Pursuant to the above resolution, the Management Board is also authorized, subject to approval by the Supervisory Board, to treat the treasury shares acquired subject to the exclusion of shareholder subscription rights on the basis of that and earlier authorizations as follows:

(1) To sell the treasury shares acquired to third parties in connection with company mergers or the acquisition of companies, or parts of companies, or interests in companies, or for the purpose of acquiring other assets (including claims of third parties against the company);

(2) To sell the treasury shares acquired by means other than via the stock exchange or an offer to all shareholders, provided the shares are sold for cash at a price that is not substantially lower than the quoted stock market price of treasury shares at the time of sale.

However, this authorization only applies subject to the proviso that the shares sold subject to the exclusion of subscription rights pursuant to section 186 para. 3 sentence 4 of the German Stock Corporation Act (AktG) may not, in total, exceed 10% of the share capital, whether on the effective date of the authorization or on the date on which it is exercised. The limit of 10% of the share capital is to include shares

(a) that are issued to service bonds with warrants or convertible bonds, participation rights or participating bonds, or a combination of these instruments, provided the instruments were issued on the basis of an authorization resolved by the Annual General Meeting of May 29, 2019 pursuant to the corresponding application of section 186 para. 3 sentence 4 of the German Stock Corporation Act (AktG);

(b) that are issued by exercising an authorization – in effect on the date on which the above authorization took effect or that was resolved by the Annual General Meeting of May 29, 2019, from authorized capital pursuant to section 186 para. 3 sentence 4 of the German Stock Corporation Act (AktG), under exclusion of subscription rights;

(3) To use the treasury shares acquired to introduce the treasury stock on foreign stock exchanges on which they have not previously been admitted for trading.

Treasury shares acquired on the basis of this authorization or authorizations granted at an earlier time may be canceled without requiring a further resolution at the Annual General Meeting for the cancelation. Cancelation leads to reduction of the share capital. However, the cancelation can also be effected by means of a simplified process without the reduction of share capital by adjusting the proportionate amount of share capital of the remaining shares according to section 8 para. 3 of the German Stock Corporation Act (AktG). The Management Board is in this case authorized to change the disclosure of the number of shares in the Articles of Association accordingly. This authorization for the acquisition of treasury shares, as well as the resale or cancelation of such shares, may be used once or several times, in whole or in part.

Significant company agreements that are conditional upon a change of control, and the resulting impact

Employment contracts of Management Board members

The employment contracts of the Management Board members contain no “change-of-control” clauses.

Syndicated loan agreement

KUKA Aktiengesellschaft and its associated companies signed a syndicated loan agreement on February 1, 2018 with a consortium of banks and amended this agreement through an amendment and accession agreement on June 21, 2019. According to the terms of the loan agreement, the creditors provide working capital and guarantee lines of €520,000,000. The loan agreement had an original term of 5 years up to February 1, 2023 and was subject to two extension options. Following the approval of all syndicate banks for the second extension option in December 2019, the loan agreement now runs until February 1, 2025 with an unchanged structure.

The loan agreement covers the main working capital requirements of KUKA Group (including the furnishing of bank guarantees). The contract contains a change-of-control clause that is typical in the industry, under the terms of which the syndicated banks may demand repayment of the loan in the event that a shareholder (or group of shareholders acting in concert) acquires control of at least 30% of the voting rights of KUKA Aktiengesellschaft, or otherwise has the ability to direct the business policy of the company. A change of the direct owner within Midea Group is not affected by this provision as long as Midea Group Co., Ltd. directly or indirectly holds 100% of the shares and voting rights of the new owner.

Each consortium bank may also declare its share of the loan agreement due for repayment in the cases of a delisting, a squeeze-out or the conclusion of a control and/or profit transfer agreement with a company of Midea Group.

In a letter dated November 23, 2021, Midea announced its intention to initiate a squeeze-out process. KUKA Aktiengesellschaft has informed the bank consortium accordingly and will enter into discussions with the syndicate banks regarding a continuation of the syndicated loan agreement.

Promissory note loan (Schuldschein) 2015

On October 9, 2015, led by Landesbank Baden-Württemberg and UniCredit Bank AG, KUKA Aktiengesellschaft had issued a promissory note loan (Schuldschein) with an overall volume of €250,000,000 and staggered terms to 2020 and 2022. On October 9, 2020, KUKA Aktiengesellschaft repaid the tranche of €142,500,000 due in 2020.

The terms and conditions of the promissory note loan (Schuldschein) contain a standard change-of-control clause. Accordingly, immediately it learns of a change of control, KUKA Aktiengesellschaft must disclose this in accordance with the terms and conditions of the loan. The lenders then have the right, within 30 days of receiving notification of a change of control, to demand repayment of their (pro rata) loan at the next interest due date after receipt of the request for repayment and the interest due up to the date of repayment. A “change of control” within the meaning of the terms and conditions of the loan is given if a person or persons acting in concert directly or indirectly (i) either hold more than 30% of the voting shares, (ii) hold more than 30% of the voting rights in the company and/or (iii) otherwise have the possibility of directing the company’s business policy.

US promissory note loans (Schuldschein) of KUKA Toledo Production Operations LLC

On August 7, 2018 and September 6, 2018, led by Deutsche Bank AG, Landesbank Baden-Württemberg and UniCredit Bank AG, KUKA Toledo Production Operations LLC (KTPO) as borrower and KUKA Aktiengesellschaft as guarantor issued a total of four promissory note loans (Schuldschein) with an overall volume of USD 150,000,000 and staggered terms to 2020, 2022 and 2023. The tranche of USD 10,000,000 due in 2020 was repaid on August 10, 2020.

The terms and conditions of the promissory note loans (Schuldschein) contain a standard change-of-control clause. Accordingly, immediately it learns of a change of control, KUKA Aktiengesellschaft must disclose this in accordance with the terms and conditions of the loans. In this case, the lenders have the right, within 15 days of receiving notification of a change of control, to terminate the promissory note loan (Schuldschein) agreements prematurely and demand repayment of their (pro rata) loan and the interest due up to the date of repayment. A “change of control” within the meaning of the terms and conditions of the promissory note loans (Schuldschein) is given if a person or persons acting in concert directly or indirectly (i) either hold more than 30% of the voting shares, (ii) hold more than 30% of the voting rights in KTPO or KUKA Aktiengesellschaft and/or (iii) otherwise have the possibility of directing the business policy of KTPO or KUKA Aktiengesellschaft. A change of the direct owner within Midea Group is not affected by this provision as long as Midea Group Co., Ltd. directly or indirectly holds 100% of the shares and voting rights of the new owner. Also excluded is restructuring within KUKA Group, meaning a change of control at KTPO insofar as control is exercised by a KUKA Group company.

Agreements concluded between the company and members of the Management Board or employees governing compensation in the event of a takeover bid

No agreements have been concluded between the company and members of the Management Board or employees governing compensation in the event of a takeover bid.

Corporate Governance Statement

For the corporate governance statement pursuant to section 289f and section 315d of the German Commercial Code (HGB), reference is made to information published on the website www.kuka.com.

Non-financial declaration

Please refer to the website at www.kuka.com for the non-financial declaration pursuant to sections 315b, 315c and 289c of the German Commercial Code (HGB). The declaration will be published on April 30, 2022.

Group financial statements

Group financial statements

Group income statement

of KUKA Aktiengesellschaft for the period January 1 to December 31, 2021

in € millions	Notes	2020	2021
Sales revenues	**1**	**2,573.5**	**3,286.2**
Cost of sales	2	-2,069.4	-2,589.5
Gross earnings from sales		**504.1**	**696.7**
Selling expenses	2	-256.9	-284.9
(of which, impairment losses including reversal of impairment losses on trade receivables and contract assets)		(-2.3)	(-14.1)
Research and development expenses	2	-178.0	-159.6
General and administrative expenses	2	-176.5	-196.7
Other operating income	3	10.0	14.9
Other operating expenses	3	-14.5	-9.3
Loss from companies consolidated at equity		-1.4	0.8
Earnings before interest and taxes (EBIT)		**-113.2**	**61.8**
Depreciation and amortization		146.4	140.2
Earnings before interest, taxes, depreciation and amortization (EBITDA)		**33.2**	**202.0**
Result from changes in the fair value of financial instruments	4	-2.9	3.8
Interest income	4	26.9	27.1
Interest expense	4	-20.0	-19.2
Foreign currency gains/losses	4	-1.0	1.8
Financial result		**3.0**	**13.5**
Earnings before taxes		**-110.2**	**75.3**
Taxes on income	5	15.6	-25.9
Earnings after taxes		**-94.6**	**49.4**
(of which, attributable to minority interests)		(8.5)	(10.4)
(of which, attributable to shareholders of KUKA AG)	6	(-103.1)	(39.0)
Earnings per share (undiluted/diluted) in €		**-2.59**	**0.98**

Group statement of comprehensive income

of KUKA Aktiengesellschaft for the period January 1 to December 31, 2021

in € millions	Notes	2020	2021
Earnings after taxes		**-94.6**	**49.4**
Items that may potentially be reclassified to profit or loss			
Differences from currency translation attributable to KUKA AG shareholders		-40.3	60.9
Differences from currency translation attributable to minority interests		-7.9	33.0
Items that are not reclassified to profit or loss			
Change in fair value of equity instruments		-1.2	0.5
Changes of actuarial gains and losses	23	-7.3	16.2
Deferred taxes on changes of actuarial gains and losses		6.2	-1.9
Changes in value recognized directly in equity (other result)		**-50.5**	**108.7**
Comprehensive result		**-145.1**	**158.1**
(of which, attributable to minority interests)		(0.6)	(43.4)
(of which, attributable to shareholders of KUKA AG)		(-145.7)	(114.7)

Group cash flow statement [1]

of KUKA Aktiengesellschaft for the financial year 2021

in € millions	2020	2021
Earnings after taxes	**-94.6**	**49.4**
Income taxes	26.4	8.1
Net interest	-7.0	-7.8
Amortization of intangible assets	63.1	53.5
Depreciation of tangible assets	46.9	49.8
Depreciation of financial investments	2.6	–
Depreciation of right-of-use assets	37.2	35.9
Other non-payment-related income	-48.6	-8.5
Other non-payment-related expenses	14.9	42.9
Cash earnings	**40.9**	**223.3**
Result on the disposal of assets	2.7	-2.2
Changes in provisions	-25.2	-29.3
Changes in current assets and liabilities		
Changes in inventories	32.8	-127.2
Changes in receivables and deferred charges	88.4	-305.6
Changes in liabilities and deferred income (excl. financial debt)	-15.8	496.3
Income taxes paid	-32.0	-14.4
Investments/financing matters affecting cash flow	-14.4	-32.9
Cash flow from operating activities	**77.4**	**208.0**
Payments from disposals of fixed assets	5.9	8.8
Payments for capital expenditures on intangible assets	-34.7	-39.9
Payments for capital expenditures on tangible assets	-46.1	-61.5
Payments for/proceeds from investment in financial investments and at-equity investments	-1.3	16.8
Payments for/proceeds from financial assets related to short-term financial management	11.1	-58.3
Payments for the acquisition of consolidated companies and groups of assets	-2.0	-0.7
Interest received	26.7	27.2
Cash flow from investment activities	**-40.4**	**-107.6**

in € millions	2020	2021
Free cash flow	**37.0**	**100.4**
Dividend payments	-6.0	-4.4
Payments for/proceeds from the acceptance/repayment of bank loans, promissory note loans (Schuldschein) and inter-company loans as well as changes in current liabilities to banks	2.3	-9.0
Proceeds from grants received	14.4	31.7
Interest paid	-19.3	-18.5
Repayment of lease liabilities	-34.1	-34.6
Cash flow from financing activities	**-42.7**	**-34.8**
Payment-related changes in cash and cash equivalents	**-5.7**	**65.6**
Exchange-rate-related and other changes in cash and cash equivalents	-24.5	53.0
Changes in cash and cash equivalents	**-30.2**	**118.6**
Cash and cash equivalents at the beginning of the period	584.8	554.6
Cash and cash equivalents at the end of the period	**554.6**	**673.2**

[1] See the notes for further information on the Group cash flow statement

Group balance sheet

of KUKA Aktiengesellschaft as at December 31, 2021

Assets

in € millions	Notes	Dec. 31, 2020	Dec. 31, 2021
Non-current assets			
Intangible assets	(7)	533.3	536.3
Property, plant and equipment	(8)	353.1	368.5
Financial investments	(9)	17.1	5.0
Investments accounted for at equity	(10)	26.4	29.7
Right-of-use assets	(11)	115.5	114.7
Finance lease receivables	(11)	119.6	100.7
Income tax receivables	(5)	1.0	0.5
Other receivables and other assets	(15)	2.9	1.3
Deferred taxes	(5)	127.8	95.8
		1,296.7	**1,252.5**
Current assets			
Inventories	(12)	307.9	445.6
Trade receivables	(13)	395.4	596.9
Contract assets	(14)	360.9	475.2
Finance lease receivables	(11)	28.4	32.9
Income tax receivables	(5)	30.2	21.1
Other receivables and other assets	(15)	142.4	211.7
		1,265.2	**1,783.4**
Cash and cash equivalents	**(16)**	**554.6**	**673.2**
		1,819.8	**2,456.6**
		3,116.5	**3,709.1**

Equity and liabilities

in € millions	Notes	Dec. 31, 2020	Dec. 31, 2021
Equity	**(17)**		
Subscribed capital	(18)	103.4	103.4
Capital reserve	(19)	306.6	306.6
Revenue reserve	(20)	546.1	575.4
Other reserves	(22)	-32.9	43.9
Minority interests	(21)	280.5	325.3
		1,203.7	**1,354.6**
Non-current liabilities			
Financial liabilities	(26)	221.6	44.4
Accounts payable to affiliated companies	(26)	148.4	148.7
Lease liabilities	(25)	92.9	94.4
Other liabilities	(27)	20.0	22.3
Pension provisions and similar obligations	(23)	117.6	95.8
Deferred taxes	(5)	34.1	21.4
		634.6	**427.0**
Current liabilities			
Financial liabilities	(26)	154.6	332.0
Lease liabilities	(25)	28.7	30.2
Trade payables	(25)	353.3	634.2
Contract liabilities	(14)	316.3	484.8
Accounts payable to affiliated companies	(25)	0.1	0.1
Income tax liabilities	(25)	43.5	27.6
Other liabilities	(27)	213.1	276.6
Other provisions	(24)	168.6	142.0
		1,278.2	**1,927.5**
		3,116.5	**3,709.1**

Development of Group equity

of KUKA Aktiengesellschaft for the financial year 2021

Notes	18	18	19	22			20		21	
				Andere Rücklagen						
in € millions	Number of shares outstanding	Subscribed capital	Capital reserve	Translation gains/losses	FVOCI measurement	Actuarial gains and losses	Annual net income and other revenue reserves	Equity attributable to shareholders	Minority interests	Total
Jan. 1, 2020	**39,775,470**	**103.4**	**306.6**	**56.4**	**-0.2**	**-46.5**	**650.1**	**1,069.8**	**278.8**	**1,348.6**
Earnings after taxes	–	–	–	–	–	–	-103.1	-103.1	8.5	-94.6
Other result	–	–	–	-40.3	-1.2	-1.1	–	-42.6	-7.9	-50.5
Comprehensive result	**–**	**–**	**–**	**-40.3**	**-1.2**	**-1.1**	**-103.1**	**-145.7**	**0.6**	**-145.1**
Dividend of KUKA AG	–	–	–	–	–	–	-6.0	-6.0	–	-6.0
Change in scope of consolidation/other changes	–	–	–	–	–	–	5.1	5.1	1.1	6.2
Dec. 31, 2020/Jan. 1, 2021	**39,775,470**	**103.4**	**306.6**	**16.1**	**-1.4**	**-47.6**	**546.1**	**923.2**	**280.5**	**1,203.7**
Earnings after taxes	–	–	–	–	–	–	39.0	39.0	10.4	49.4
Other result	–	–	–	60.9	0.5	14.3	–	75.7	33.0	108.7
Comprehensive result	**–**	**–**	**–**	**60.9**	**0.5**	**14.3**	**39.0**	**114.7**	**43.4**	**158.1**
Dividend of KUKA AG	–	–	–	–	–	–	-4.4	-4.4	–	-4.4
Change in scope of consolidation/other changes	–	–	–	–	0.9	0.2	-5.3	-4.2	1.4	-2.8
Dec. 31, 2021	**39,775,470.0**	**103.4**	**306.6**	**77.0**	**–**	**-33.1**	**575.4**	**1,029.3**	**325.3**	**1,354.6**

Group notes

Group notes [1]

of KUKA Aktiengesellschaft for the financial year 2021

	Systems		Robotics		Swisslog		Swisslog Healthcare	
in € millions	2020	2021	2020	2021	2020	2021	2020	2021
Orders received	715.3	981.8	901.3	1,081.3	643.9	749.8	188.0	238.8
Order backlog	591.0	597.4	266.3	323.3	726.6	842.1	176.9	218.3
Group external sales revenues	661.2	976.8	806.0	907.7	522.6	633.8	197.5	199.3
in % of Group sales revenues	25.7	29.7	31.3	27.6	20.3	19.3	7.7	6.1
Intra-Group sales revenues	10.4	1.5	93.2	113.0	5.1	17.1	6.7	5.7
Sales revenues	**671.6**	**978.3**	**899.2**	**1,020.7**	**527.7**	**650.9**	**204.2**	**205.0**
Gross earnings from sales	**19.7**	**89.7**	**285.0**	**337.7**	**93.9**	**112.8**	**71.0**	**73.9**
in % of sales revenues of the segment	2.9	9.2	31.7	33.1	17.8	17.3	34.8	36.0
Earnings before interest and taxes (EBIT)	**-37.4**	**31.1**	**-3.9**	**61.8**	**0.8**	**19.0**	**3.0**	**3.8**
in % of sales revenues of the segment	-5.6	3.2	-0.4	6.1	0.1	2.9	1.5	1.8
in % of average capital employed (ROCE)	-13.2	9.8	-1.0	16.6	0.6	15.3	1.9	2.4
Earnings before interest, taxes, depreciation and amortization (EBITDA)	**-18.1**	**48.2**	**46.4**	**105.4**	**19.1**	**36.5**	**16.6**	**16.5**
in % of sales revenues of the segment	-2.7	4.9	5.2	10.3	3.6	5.6	8.1	8.1
Earnings before taxes (EBT)	**-18.5**	**38.3**	**-10.2**	**57.4**	**-7.3**	**15.6**	**-3.8**	**0.3**
in % of sales revenues of the segment	-2.8	3.9	-1.1	5.6	-1.4	2.4	-1.9	0.1
Capital employed (annual average)	284.3	318.5	407.7	372.5	136.0	124.2	163.6	157.8
Capital employed (end of financial year)	284.9	352.1	376.7	368.3	123.5	124.8	155.9	159.8
Segment assets	608.5	850.8	647.3	684.0	592.1	727.1	267.7	293.6
Segment liabilities	-328.1	-500.2	-262.0	-320.7	-316.2	-402.5	-81.8	-98.6
Investments accounted for at equity	–	–	5.0	3.5	–	0.1	–	1.6
Earnings of investments accounted for at equity	–	–	0.3	0.3	–	–	-1.7	–
Capital expenditure	7.3	8.5	28.2	29.8	10.9	12.7	12.6	14.5
Scheduled depreciation/amortization of intangible and tangible assets incl. amortization of capitalized interest	10.0	6.7	39.3	33.6	27.4	15.6	16.2	10.6
Unscheduled depreciation/amortization of intangible and tangible assets	2.0	–	7.0	–	–	–	0.9	–
Number of employees (Dec. 31)	3,033	3,032	5,197	5,290	2,215	2,367	1,068	1,053

	China		Corporate Functions		Reconciliation and consolidation		Group	
in € millions	2020	2021	2020	2021	2020	2021	2020	2021
Orders received	490.4	681.4	0.1	0.2	-146.7	-168.0	2,792.2	3,565.3
Order backlog	270.6	381.8	–	–	-38.9	-51.0	1,992.6	2,311.9
Group external sales revenues	386.0	568.6	0.2	–	–	–	2,573.5	3,286.2
in % of Group sales revenues	15.0	17.3	–	–	–	–	100.0	100.0
Intra-Group sales revenues	11.1	20.5	100.2	107.7	-226.7	-265.5	–	–
Sales revenues	**397.1**	**589.1**	**100.4**	**107.7**	**-226.7**	**-265.5**	**2,573.5**	**3,286.2**
Gross earnings from sales	**46.3**	**87.5**	**100.2**	**108.5**	**-112.0**	**-113.4**	**504.1**	**696.7**
in % of sales revenues of the segment	11.7	14.9	–	–	–	–	19.6	21.2
Earnings before interest and taxes (EBIT)	**-4.7**	**10.2**	**-21.6**	**-33.4**	**-49.3**	**-30.7**	**-113.2**	**61.8**
in % of sales revenues of the segment	-1.2	1.7	–	–	–	–	-4.4	1.9
in % of average capital employed (ROCE)	-3.1	8.3	–	–	–	–	-8.6	5.0
Earnings before interest, taxes, depreciation and amortization (EBITDA)	**7.8**	**24.0**	**2.6**	**-12.0**	**-41.0**	**-16.6**	**33.2**	**202.0**
in % of sales revenues of the segment	2.0	4.1	–	–	–	–	1.3	6.1
Earnings before taxes (EBT)	**5.4**	**21.9**	**-27.0**	**-53.4**	**-48.7**	**-4.8**	**-110.2**	**75.3**
in % of sales revenues of the segment	1.4	3.7	–	–	–	–	-4.3	2.3
Capital employed (annual average)	151.4	123.2	187.6	164.3	-9.6	-15.0	1,321.1	1,245.5
Capital employed (end of financial year)	138.4	108.0	176.7	151.9	-10.9	-19.1	1,245.2	1,245.8
Segment assets	417.6	563.3	581.1	579.7	-680.2	-758.5	2,434.1	2,940.1
Segment liabilities	-256.8	-430.7	-71.2	-74.8	22.0	68.8	-1,294.0	-1,758.7
Investments accounted for at equity	22.5	24.7	–	–	-1.1	-0.1	26.4	29.7
Earnings of investments accounted for at equity	1.1	0.5	–	–	-1.1	–	-1.4	0.8
Capital expenditure	9.1	24.7	13.3	11.2	-0.7	–	80.7	101.4
Scheduled depreciation/amortization of intangible and tangible assets incl. amortization of capitalized interest	8.9	10.5	16.5	16.0	-24.3	-0.4	93.9	92.7
Unscheduled depreciation/amortization of intangible and tangible assets	–	–	6.2	4.6	–	6.0	16.1	10.6
Number of employees (Dec. 31)	1,516	1,713	671	673	–	–	13,700	14,128

[1] For more information on Group segment reporting, see explanations of Group segment reporting in the notes. In order to ensure comparability with the previous year, some comparative figures for fiscal 2020 have been adjusted, as the KUKA Business Organization segment structure was further optimized at the beginning of fiscal 2021.

General comments

Accounting principles

KUKA Aktiengesellschaft, registered at the district court of Augsburg under HRB 22709 and headquartered in Augsburg (Zugspitzstrasse 140, 86165 Augsburg, Germany), has prepared its consolidated financial statements for the period ending December 31, 2021 according to the International Financial Reporting Standards (IFRS) of the International Accounting Standards Board (IASB) adopted for use in the European Union as at the balance sheet date. The term IFRS also includes all valid international accounting standards (IAS). The interpretations of the Standing Interpretations Committee (SIC) and the International Financial Reporting Standards Interpretations Committee (IFRS IC) – supplemented by the guidelines stipulated in section 315e para. 1 of the German Commercial Code (HGB) – are also taken into consideration.

The accounting policies used conform to the methods applied in the previous year. Exceptions from this are the standards and interpretations for which application is mandatory for the first time in the 2021 fiscal year. The currency reported in the consolidated financial statements is the euro. Unless otherwise noted, all amounts in the notes to the accounts are stated in millions of euros (€ million). The key performance indicators in the entire annual report have been rounded in accordance with standard commercial practice. In individual cases, it is therefore possible that figures in this report do not add up exactly to the total stated and that percentages do not precisely correspond to the values indicated.

With the exception of specific financial instruments and plan assets reported at fair value, the Group's consolidated financial statements are prepared based on historical costs. In this case, fair value is defined under IFRS 13 as the price that would be paid by independent market participants in an arm's length transaction on the measurement date if an asset were sold or a liability transferred.

KUKA Group does not carry any assets with an indefinite useful life with the exception of goodwill and specific brand names.

The Group's consolidated income statement is prepared using the cost of sales method. The classification regulations of IAS 1 are applied in the consolidated financial statements. The presentation in the Group's consolidated balance sheet distinguishes between current and non-current assets and liabilities.

The identically worded declarations of compliance with the German Corporate Governance Code pursuant to section 161 of the German Stock Corporation Act (AktG) made by the Management Board and Supervisory Board on February 9, 2022 can be accessed on the Internet through the Company's website (www.kuka.com).

Midea Group holds more than 95% of the shares in KUKA Aktiengesellschaft. KUKA Aktiengesellschaft is thus an indirect subsidiary of Midea Group Co. Ltd., Foshan City, Guangdong Province, China and is included in its consolidated financial statements. These statements are available on the website www.cninfo.com.cn or directly on the website of Midea Group Co. Ltd. at https://www.midea-group.com/Investors/financial-reports. Mr. Xiangjian He can exercise significant influence over Midea Group Co. Ltd., Foshan City, Guangdong Province, China, which means that from the perspective of KUKA Group, Mr. He is to be regarded as the ultimate controlling party, represented in this case by a natural person.

Scope of consolidation

KUKA Group's scope of consolidation changed in the course of the fiscal year due to newly established companies, mergers and other changes.

The following table shows the development of the scope of consolidation by region for the 2021 fiscal year:

Country	EMEA		Americas		APAC		Total	
	Consolidated companies	At equity companies	Consolidated companies	At equity companies	Consolidated companies	At equity companies	Consolidated companies	At equity companies
Jan. 1, 2021	**56**	**–**	**18**	**–**	**25**	**4**	**99**	**4**
Newly established companies	–	–	–	–	1	1	1	1
Mergers	-5	–	–	–	–	–	-5	–
Total changes	-5	–	–	–	1	1	-4	1
Dec. 31, 2021	**51**	**–**	**18**	**–**	**26**	**5**	**95**	**5**

In the year under review, changes were made to the organizational structure (KBO) introduced in fiscal 2019. In the previous years, companies were reported both in the Swisslog or Swisslog Healthcare segment and in the China segment due to a management approach. In 2021, it was decided that the duplication of Chinese entities would not be continued. The Chinese entities are now shown exclusively in the China segment.

The Systems segment comprises 15 fully consolidated entities (previous year: 15 entities). In the Robotics division, five entities were merged, resulting in 36 fully consolidated entities in the Robotics segment as at the balance sheet date (previous year: 41 entities). As in the previous year, the Robotics segment comprises two entities consolidated at equity (previous year: two entities). In the Swisslog segment, one entity was newly established and one entity was reclassified from the Corporate Functions segment. In addition, the elimination of duplication reduces the number of companies by one. The segment therefore shows 19 fully consolidated entities (previous year: 18 entities). Furthermore, due to the elimination of duplication, no more entities accounted for at equity are shown in the Swisslog segment (previous year: two entities). The Swisslog Healthcare division reported 13 fully consolidated entities as at December 31, 2021. One Chinese entity is no longer allocated to this segment, but only to the China segment. One at-equity entity was newly added in the fiscal year (previous year: 0 entities). The China business segment reported 8 fully consolidated entities (previous year: 8 entities). Two at-equity entities are now shown in the China segment due to the elimination of duplication (previous year: 2 entities). One entity was reclassified from Corporate Functions to the Swisslog segment in the year under review, resulting in four fully consolidated entities as at the balance sheet date (previous year: five entities). Overall, the number of fully consolidated companies decreased from 99 as at December 31, 2020 to 95 as at December 31, 2021. The number of entities accounted for at equity increased from four entities to five.

Newly established company

KUKA Group established PT Swisslog Logistics Automation in Karet, Indonesia, during the fiscal year. The company was included in the consolidated financial statements for the first time in fiscal 2021 and was allocated to the Swisslog business segment.

Mergers

In the fiscal year, 4 entities, namely Reis GmbH, KUKA Industries GmbH & Co. KG, Verwaltungsgesellschaft Walter Reis GmbH and Walter Reis GmbH & Co KG were transferred to Reis Group Holding GmbH & Co. KG by way of merger or accretion. The absorbing company was subsequently renamed KUKA Industries GmbH & Co. KG. Furthermore, Faude Automatisierungstechnik GmbH was merged into KUKA Deutschland GmbH.

Consolidation principles

If subsidiaries are directly or indirectly controlled pursuant to the control concept under IFRS 10, they are included in KUKA's consolidated financial statements in accordance with the rules of full consolidation. Control can be assumed if KUKA Group has a right to the variable returns. Through its control, KUKA Group is also in a position to influence the returns from the company. The date on which control is gained or lost is decisive for inclusion of a company in consolidation or deconsolidation.

The consolidated financial statements are based on the financial statements of KUKA Aktiengesellschaft and those of the consolidated subsidiaries and were prepared according to the uniform accounting policies for the Group. Capital consolidation takes place by offsetting the carrying amounts of the investment against the pro rata newly measured equity capital of the subsidiaries at the time of acquisition. In line with IFRS 3, any positive differences are capitalized as goodwill under intangible assets. Any negative differences are recognized in the income statement.

Intra-Group sales, expenses and income as well as receivables and liabilities are offset and any inter-company profits and losses are eliminated. The necessary deferred taxes are recognized for consolidation transactions.

Guarantees or warranties that KUKA AG issues on behalf of consolidated subsidiaries are eliminated if there is no external effect.

Currency translation

Receivables and payables denominated in foreign currency are initially recognized at the transaction rate and translated at the applicable middle rate on the balance sheet date. Any resulting translation gains or losses are recognized in the income statement in the functional area in which they arose. If, for example, a translation gain or loss arises from a foreign currency transaction in respect of supplies and services, it is reported under the cost of sales. Translation effects within loan transactions are shown under the financial result, as they are attributable to financing transactions.

The annual financial statements of foreign companies included in the consolidated financial statements are translated from their functional currency into euro in accordance with IAS 21. These are the respective local currencies as the companies operate predominantly within their currency area. One exception is KUKA Robotics Hungária Ipari Kft., Taksony, Hungary, whose functional currency is the euro.

Unrealized price differences from the translation of equity-replacing loans to foreign subsidiaries in foreign currency are reported directly in the aggregate income/loss and so recognized directly in equity. On loss of control these effects are released through profit or loss. For derivative goodwill recognized prior to January 1, 2005, the translation rate into euro has been fixed at the respective historical rates.

Equity is translated at historical rates. Expenses and income are translated at the average rate. Both differences arising from the translation of assets and liabilities compared to the prior year and translation differences between the income statement and the balance sheet are recognized directly in equity within the revenue reserves. If exchange rate differences exist when a company leaves the Group, they are released to income.

Within KUKA Group, there are leases in accordance with IFRS 16 that were concluded in currencies other than the functional currency of the respective entity. These leases are first translated into the functional currency of the subsidiary and then into euro as the Group currency.

The exchange rates used for the year under review and the previous year are shown in the following table:

Country	Currency	Balance sheet date		Average rate	
		Dec. 31, 2020	Dec. 31, 2021	2020	2021
Australia	AUD	1.5896	1.5615	1.65569	1.57472
Brazil	BRL	6.3735	6.3101	5.88968	6.38134
Canada	CAD	1.5633	1.4393	1.52953	1.48349
China	CNY	8.0225	7.1947	7.87092	7.63402
China, Hong Kong	HKD	9.5142	8.8333	8.85163	9.19881
Czech Republic	CZK	26.2420	24.8580	26.45617	25.64681
India	INR	89.6605	84.2292	84.58470	87.48609
Indonesia	IDR		16,100.4200		16,928.50881
Hungary	HUF	363.8900	369.1900	351.22170	358.46354
Japan	JPY	126.4900	130.3800	121.78027	129.85746
Korea	KRW	1,336.0000	1,346.3800	1,345.17504	1,353.94564
Malaysia	MYR	4.9340	4.7184	4.79373	4.90256
Mexico	MXN	24.4160	23.1438	24.51425	23.99030
New Zealand	NZD	1.6984	1.6579	1.75664	1.67254
Norway	NOK	10.4703	9.9888	10.72543	10.16339
Poland	PLN	4.5597	4.5969	4.44322	4.56404
Romania	RON	4.8694	4.9481	4.83706	4.92043
Russia	RUB	91.4671	85.3004	82.65357	87.23206
Singapore	SGD	1.6218	1.5279	1.57364	1.58965
Sweden	SEK	10.0343	10.2503	10.48910	10.14485
Switzerland	CHF	1.0802	1.0331	1.07030	1.08141
Taiwan	TWD	33.2194	30.1768	32.33600	31.85220
Thailand	THB	36.7270	37.6530	35.69431	37.82158
Turkey	TRY	9.1131	15.2335	8.04302	10.46697
United Arab Emirates	AED	4.4683	4.1188	4.15168	4.30752
United Kingdom	GBP	0.8990	0.8403	0.88924	0.86000
USA	USD	1.2271	1.1326	1.14128	1.18353
Vietnam	VND	27,472.3156	24,965.0100	25,666.90747	26,263.74893

Accounting and valuation principles

Orders received

An order is recognized under orders received once a binding purchase order has been received. The volume of orders received is a non-cumulative value that relates to a fiscal year. Framework agreements per se or even memoranda of understanding do not yet result in orders received. Only when there is a legally binding order release under this framework agreement is an incoming order recognized.

Order backlog

The order backlog represents a stock variable and contains orders as long as a binding customer order has not yet been invoiced. In the case of long-term contract manufacturing, revenue is taken as the reference value. In the event of an order cancelation in the current year, the orders received and correspondingly the order backlog are reduced. However, if cancelation of an order from the previous year is involved, only the order backlog is reduced.

Revenue recognition

KUKA Group's revenues result from the sale of robots and automation solutions for a wide range of industrial and healthcare sectors. Revenues are recognized upon fulfillment of the performance obligation, for example, when control is transferred to the customer. When the contractual performance obligation is fulfilled, this portion is recognized as revenue over time or at a point in time. In order to determine a percentage of completion for over-time accounting, for example, it must be possible to determine the costs associated with the sale sufficiently reliably. In the case of point-in-time performance, the invoice is usually issued after the performance obligation has been fulfilled. In the case of performance over time, invoicing is linked to the achievement of milestones. Performance obligations with regard to returns, refunds, obligations exceeding statutory guarantees and similar obligations are of secondary importance for KUKA Group.

Orders meeting the criteria of IFRS 15.35 are accounted for over time. Revenue is recognized on the basis of the percentage of completion of an order, which is determined for each project using the cost-to-cost method. The cost-to-cost method involves placing the costs already incurred for the project, based on an assessment of the progress already achieved, in relation to the anticipated total costs. If an order is accounted for over time, the profit from it is recognized on the basis of the calculated percentage of completion. If the advance payments received exceed the services already provided, the resulting negative balance will be disclosed under contract liabilities. A contract asset is recognized if the services rendered exceed the advance payments received. If the right to consideration is unconditional, a contract asset becomes a trade receivable. This is the case if the due date of the consideration is only dependent on the passage of time. Impairment of contract assets is measured, recognized and disclosed on the same basis as for financial assets within the scope of IFRS 9. KUKA Group applies industry-standard payment terms when invoicing. For impending project losses, please refer to the "Provisions" section within this chapter.

Cost of sales

The cost of production of the goods sold as well as the acquisition cost of any merchandise sold are recognized under the cost of sales. In addition to the cost of attributable direct materials and labor, indirect costs, including the depreciation and amortization of production plants and intangible assets, as well as write-downs of inventories are also reported in the cost of sales.

If provisions for product warranties have to be taken into account, the expense incurred is recorded as part of the cost of sales at the time of revenue recognition. If the currently estimated total costs exceed the sales revenues of an order, the resulting impending losses are taken into account in the reporting period in which they are first exceeded.

Business combinations

Business combinations are accounted for using the purchase method, whereby the cost of acquisition is determined by reference to the fair values of the assets and liabilities involved at the date of acquisition. The agreed contingent consideration is recognized at fair value at the acquisition date. Irrespective of the extent of non-controlling interests, the identifiable assets acquired and liabilities (including contingent liabilities) assumed in a business combination are recognized at fair value at the acquisition date. Gains and losses arising are subsequently recognized in proportion to the interest held without limitation.

Investments in associates and joint ventures

Investments in associates and joint ventures are initially recognized at cost. For subsequent measurement, which is carried out in accordance with the equity method, IAS 28 is applicable. The results of associates are recognized in a separate item of the income statement.

Goodwill

Goodwill is tested for impairment in the fourth quarter of each fiscal year or whenever there are indications of impairment. For this, the carrying amount of the respective cash generating units (CGUs) is compared with the recoverable amount. As soon as the carrying amount of a CGU exceeds the recoverable amount, an impairment loss must be recognized for the goodwill allocated to the CGU. The recoverable amount is defined as the higher of the CGU's fair value less potential costs to sell and its value in use. KUKA Group normally uses a CGU's value in use to determine its recoverable amount. The data for the detailed planning phase from the business plan for the next three years are used for this purpose, supplemented by the strategic planning for the following two years. An impairment loss recognized for goodwill may not be reversed.

For the segment-specific discount rates as well as the further parameters and their derivation, and also for the identification of the principal items of goodwill, please refer to the explanations under note 7.

Self-developed software and other development costs

When all the requirements of IAS 38 have been cumulatively met, the direct and indirect costs directly attributable to the development process are capitalized.

From the beginning of the economic use of the asset, it is depreciated on a straight-line basis over a period of generally three to five years according to the consumption of its value. Development projects that have not yet been completed but have already been capitalized are tested for impairment as part of the impairment test for goodwill.

Research and development costs that are not eligible for capitalization are recognized as expenses.

Other intangible assets

In KUKA Group, the purchased intangible assets essentially comprise software and patents. They are recognized at their acquisition cost and are amortized over their expected useful economic life of usually one to five years using the straight-line method.

Property, plant and equipment

The balance sheet item of property, plant and equipment comprises the respective acquisition or production cost less accumulated depreciation and impairment losses. The straight-line depreciation method that is generally applied is subject to ongoing evaluation.

The following table shows the useful economic lives, unchanged from the previous year, on which scheduled depreciation is generally based. The actual useful lives may vary due to contractual, regional or time-related circumstances:

	Years
Land and buildings	25 – 50
Technical plant and equipment	2 – 15
Factory and office equipment	2 – 15

If the carrying amount of an asset in the balance sheet exceeds its recoverable amount, an impairment loss is recognized in accordance with IAS 36. This is done in the context of an impairment test, which is performed as soon as impairment indicators are identified (a so-called triggering event). Whether this is the case is subject to an ongoing review within KUKA Group. If there is a change in parameters relevant to the calculation, such as a significant increase in market yields, or if there are changes with adverse consequences in the technological, market-related, economic or even legal environment, this indicates a triggering event. The recoverable amount is determined for each asset concerned. This is the higher of the fair value less costs to sell and the value in use. If the reasons for a previous impairment no longer apply, the value is recovered.

Borrowing costs and qualifying assets

In accordance with IAS 23, financing costs must be recognized for so-called qualifying assets. The borrowing costs relating to these qualifying assets are capitalized if material. In KUKA Group, a qualifying asset is defined as an asset for which a period longer than twelve months is required to make it ready for its intended use or sale (please refer to IAS 23.5). Examples here within KUKA Group in particular are manufacturing plants and internally-generated intangible assets.

Government grants

If there is sufficient certainty in accordance with IAS 20.7 that the company fulfills the conditions for the grants and that they will actually be received, government grants are recognized. In the balance sheet, government grants related to assets are disclosed as deferred income and amortized systematically in the income statement over the useful life of the asset. Grants related to income are recognized immediately in the income statement.

Leases

As a lessee, KUKA Group generally recognizes all leases in the balance sheet in accordance with IFRS 16, with the exception of the existing relief regarding short-term leases (maximum term 12 months) and leases of assets with a low original price (max. €5,000). The regular payments for leases subject to relief are recognized as an expense in the income statement. The right of use that is granted under the lease is recognized by the lessee at the present value of the future lease payments and an associated lease liability. Discounting is carried out using the interest rate on which the lease is based, insofar as this can be determined. If this is not possible, the incremental borrowing rate is applied. The incremental borrowing rate is calculated dependent on the lease term and the currency in which the lease is concluded, among other things.

In subsequent measurement, the right-of-use asset is amortized on a straight-line basis over the shorter of the lease term and the economic benefit. The lease liability is reduced by the repayment component.

If KUKA Group acts as lessor and the contract is classified as a finance lease, it is accounted for as a sale or financing transaction. A receivable is valued at the amount of the net investment in the lease and the resulting interest income is recognized as income.

The classification of a contract as an operating lease with KUKA Group acting as the lessor means that the asset remains on KUKA Group's balance sheet. The income from it is recognized in the income statement over the term of the lease. The asset is amortized in accordance with the applicable standard, if necessary.

Financial instruments

A financial instrument is any contract that gives rise to both a financial asset of one entity and a financial liability or equity instrument of another entity. Financial instruments are thus created through contractual agreements.

(i) Recognition and initial measurement

Financial instruments are recognized as soon as KUKA Group becomes a party to the contractual provisions of the financial instrument. In the case of standard market purchases or sales, the settlement date is relevant for initial recognition and derecognition.

A financial asset (other than a trade receivable without a significant financing component) or financial liability is measured initially at fair value. For an item that is not measured at fair value through profit or loss, transaction costs that are directly attributable to its acquisition or issue are added or deducted. Trade receivables without a significant financing component are initially measured at the transaction price.

(ii) Classification and subsequent measurement

Financial assets
Depending on the business model and the structure of contractual cash flows, financial assets are classified in the categories "at amortized cost", "at fair value through other comprehensive income" or "at fair value through profit or loss".

Thus, a financial asset in KUKA Group is classified and measured upon initial recognition as follows:

- Debt instruments measured at amortized cost (AC)
- Equity instruments measured at fair value through other comprehensive income (FVOCI)
- Equity instruments and derivatives measured at fair value through profit and loss (FVtPL)

Financial assets are not reclassified after initial recognition unless KUKA Group changes its business model for managing financial assets. In this case, all affected financial assets are reclassified on the first day of the reporting period following the change of business model.

KUKA Group recognizes a financial asset measured at amortized cost if both of the following conditions are met:

- The financial asset is held as part of a business model whose objective is to hold financial assets for the collection of contractual cash flows and
- the contractual terms of the financial asset give rise to cash flows at specified times that are solely repayments and interest payments on the outstanding principal.

On initial recognition of an equity investment that is not held for trading purposes, the Group may irrevocably elect to disclose subsequent changes in the fair value of the investment under other comprehensive income. This choice is made on a case-by-case basis for each investment.

All financial assets that are not measured at amortized cost or FVOCI are measured at FVtPL. This includes all derivative financial assets. On initial recognition, the Group may irrevocably elect to designate financial assets that otherwise meet the requirements for measurement at amortized cost or as debt instruments in the FVOCI category as FVtPL if doing so results in the elimination or significant reduction of accounting mismatches that would otherwise arise. KUKA Group does not make use of the fair value option.

Transfers of financial assets to third parties that do not result in derecognition are consistent with the Group continuing to account for the assets and, accordingly, holding them under the "sell" business model and classifying them in the FvtPL category. This concerns specific trade receivables that are subject to factoring agreements. Financial assets in the FVtPL category are subsequently measured at fair value. Changes in value, including any interest or dividend income, are recognized in profit or loss.

Financial assets in the AC category are subsequently measured at amortized cost using the effective interest method. The amortized cost is reduced by impairment losses. Interest income and/or expenses, exchange rate effects, impairments and effects from derecognition are recognized in profit or loss. This mainly includes trade receivables held under the "hold" business model, rental deposits and current securities.

Equity instruments in the FVOCI category are subsequently measured at fair value. Dividends are recognized as income in profit or loss. Other changes in value are recognized in other comprehensive income and never reclassified to profit or loss, where appropriate within other comprehensive income. This mainly includes other investments classified as FVOCI.

KUKA Group applies a default definition of 180 days past due for a receivable, which is generally written off at 100% in the event of default, although deviations from this are permitted in justified exceptions. For the value adjustments of financial assets (excluding lease receivables, trade receivables and contract assets), KUKA Group in principle applies the general approach described in IFRS 9. The amount of the value adjustment is measured at initial recognition based on the expected 12-month credit loss, which corresponds to level 1. If there are indications as at the balance sheet date that the default risk has increased significantly since initial recognition, the value adjustment is calculated in the amount of the expected credit losses over the term of the loan (level 2). An indicator that a default risk has increased significantly is if the debtor no longer meets its short-term payment obligations or if there are signs of a deterioration in the debtor's business performance.

For the aforementioned exceptions, the simplified approach according to IFRS 9 is applied. The amount of the value adjustment for lease receivables, trade receivables and contract assets is based on the expected credit losses over the entire term. It is irrelevant for allocation to level 2 whether the credit risk has increased since initial recognition.

Level 3 comprises financial assets that are credit-impaired at the balance sheet date due to the existence of objective indications, but which were not yet credit-impaired when they were initially recognized. The value adjustment is then recognized in the amount of the credit losses expected to be incurred over the term. KUKA Group views customer insolvencies as objective indications of value adjustment. Payments that are more than 90 days past due are also included in the analysis.

Among other things, current data relating to rating classes or historical default rates (provision matrix) are used for determining the risk provision. Forward-looking, publicly available information on macroeconomic factors and insolvency forecasts are also taken into account here. The default risk is reviewed and the default rates are updated once each year.

Default risks are taken into account using historical default rates in the area of trade receivables and contract assets. At the portfolio level, particularly in the case of business with major customers in the automotive sector, value adjustments are subject to separate credit rating monitoring. This credit rating monitoring is ensured by means of regular updates of credit default swaps. The same applies to value adjustment in the area of receivables from finance leases.

Financial liabilities

Financial liabilities are classified and measured at amortized cost or fair value through profit or loss (FVTPL). A financial liability is allocated to FVTPL if it is classified as held for trading purposes, is a derivative, or is designated as such upon initial recognition. KUKA Group does not make use of the fair value option.

Financial liabilities at FVTPL are measured at fair value, and changes in value, including interest expenses, are recognized in profit or loss. This includes derivative financial instruments with negative fair values.

Other financial liabilities are subsequently measured at amortized cost using the effective interest method. Interest expenses and foreign currency translation differences are recognized in profit or loss. Gains or losses on derecognition are also recognized in profit or loss. KUKA Group subsumes, for example, financial liabilities or liabilities to affiliated companies within this category.

(iii) Derecognition

Financial assets

KUKA Group derecognizes a financial asset when

- its contractual rights to cash flows from the financial asset expire, or
- it transfers its right to receive contractual cash flows to a transaction in which either:
  - essentially all the risks and rewards of ownership of the financial asset are transferred, or
  - if the Group neither transfers nor retains essentially all the risks and rewards of ownership and does not retain control of the transferred asset.

Financial liabilities
A financial liability is derecognized when the contractual obligations are fulfilled, canceled or have expired. Furthermore, a financial liability is also derecognized if its contractual terms are modified and the cash flows of the adjusted liability are significantly different. In this case, a new financial liability is recognized at fair value based on the adjusted terms. On derecognition of a financial liability, the difference between the carrying amount of the liability extinguished and the amount paid (including any non-cash assets transferred or liabilities assumed) is recognized in profit or loss.

(iv) Balancing

KUKA Group only offsets financial assets and financial liabilities if this is covered by a binding legal claim as at the balance sheet date. Moreover, it must be intended that the adjustment be made on the basis of the net amount. If offsetting is excluded, the financial assets and liabilities are presented in the balance sheet at their gross amount.

(v) Derivative financial instruments

Derivative financial instruments constitute financial contracts whose value is derived from the price of an underlying asset (such as stocks, bonds, money market instruments or commodities) or a reference rate (such as currencies, indices or interest rates). Little or no initial investment is required and their settlement takes place at a future date. Examples of derivative financial instruments include options, forward contracts and interest rate swap transactions. KUKA Group uses derivative financial instruments to hedge cash flow risks. Derivative financial instruments are used in particular to hedge currency fluctuations.

In KUKA Group, all derivative financial instruments are recognized at fair value as at the trading date. Subsequent measurement is also at fair value. The fair values are determined with the aid of standard financial mathematical techniques, using current market parameters such as exchange rates and counterparty credit ratings (mark-to-market method).

If the derivative financial instruments have a positive fair value, they are recognized under other assets. A negative fair value, on the other hand, results in disclosure under other liabilities.

Cash and cash equivalents

Cash and cash equivalents comprise liquid funds, namely cash on hand, checks and cash balances with financial institutions, and are measured at amortized cost. Cash and cash equivalents are short-term, highly liquid financial instruments that are convertible to known amounts of cash at any time and are subject to an insignificant risk of changes in value. Cash equivalents serve the purpose of meeting payment obligations. For this reason, a financial asset can generally only be considered a cash equivalent if it has a maturity of three months or less from the date of acquisition. The relevant date for the remaining time to maturity is the date of acquisition.

If cash or cash equivalents cannot be defined as current (maturity of more than three months from the acquisition date) and are not highly liquid due to certain restrictions (so-called restricted cash), the accounting treatment is based on various special rules. For example, seized or frozen bank accounts or funds deposited in escrow accounts are considered restricted.

Investments in non-consolidated companies and financial investments

In KUKA Group, investments in continuing business units that are not material to the net assets, financial position and performance of the Group are classified in the FVtPL or FVOCI category and measured at fair value if this can be reliably determined.

Investments measured at equity

Investments measured at equity are accounted for in KUKA Group using the equity method. The starting point is the cost of the shares at the time of acquisition. Subsequently, the carrying amount of the investment is increased or reduced by the pro rata earnings and other changes in equity.

Inventories

In accordance with IAS 2, KUKA Group capitalizes and measures existing inventories at the lower of cost and current purchase price or net realizable value. The average cost method is used as the measurement standard for acquisition and production costs. The production costs include not only the direct unit costs but also an appropriate share of material and production overheads. Where necessary, discounts to lower net realizable values were also applied. In addition to valuation allowing disposal at no net loss, these discounts also take all other inventory risks into account. An impairment loss is reversed if the reasons for a write-down of inventories in the past no longer exist.

Current and deferred taxes

The actual income taxes are calculated based on the respective national taxable income and regulations for the year. In addition, the actual taxes reported in the financial year also include adjustment amounts for any tax payments or refunds for years not yet finally assessed, but excluding interest payments or interest refunds and penalties for back taxes. Tax liabilities are recognized for any amounts reported in the tax returns that will probably not be realized (uncertain tax positions). The amount is determined from the best possible estimate of the expected tax payment (expected value or most probable value of the tax uncertainty). Tax receivables from uncertain tax positions are recognized in the balance sheet if it is probable that they can be realized. Only if a tax loss carryforward or an unused tax credit exists will no tax liability or tax receivable be recognized for these uncertain tax positions, but instead the deferred tax asset will be adjusted for the tax loss carryforwards and tax credits not yet utilized.

Deferred tax assets and liabilities are recorded according to IAS 12 for all temporary differences between the carrying amounts of assets and liabilities on the Group balance sheet and their recognized value for tax purposes (liability method) as well as for tax loss carryforwards. Deferred tax assets for accounting and valuation differences as well as for tax loss carryforwards are only recognized to the extent that there is a sufficiently probable expectation that the corresponding benefit will be realized in the future. Deferred tax assets and liabilities are not discounted. Deferred tax assets are netted against deferred tax liabilities if the tax creditor is the same.

Pension provisions and similar obligations

The measurement of pension provisions and similar obligations is performed in accordance with IAS 19 and includes pension liabilities of KUKA Group from performance-based pension systems. Company obligations from defined benefit plans are determined separately for each defined benefit plan according to actuarial principles. The first step involves the retirement benefits being estimated that employees have acquired in return for their service in the current period and prior periods. The next step involves these retirement benefits being discounted using the project unit credit method. Not only the pensions and vested benefits known at the balance sheet date are taken into account with this method, but also expected future increases in salaries and pensions. The calculation is based on actuarial reports prepared annually under consideration of biometric accounting principles. If actuarial gains or losses arise in a period, they are recognized in other comprehensive income. The company determines the net interest expense (net interest income) by multiplying the net liability (net asset value) at the beginning of the period with the underlying interest rate of the discount of the gross defined benefit pension obligation at the beginning of the period. If a past service cost is incurred due to changes in the plan, this is recognized directly in profit or loss in the period. The standard return on plan assets is recognized in the amount of the discount rate applied to pension obligations. Administrative expenses that are incurred for plan assets are recognized as part of the revaluation component in other comprehensive income, while other administrative costs are allocated to operating profit at the time the costs occur. Reinsurance policies with insurance companies are in place for obligation surpluses from pre-retirement schemes according to the block model, which are taken into account using a separate interest rate in the same way as the corresponding obligation. The amount added for obligations from pre-retirement schemes is proportional to the amounts in the applicable collective bargaining agreements. For the defined contribution plans, KUKA pays contributions to a public or private pension insurance carrier. Upon payment of the contributions, KUKA has no further obligations.

Other provisions

Other provisions are recognized if there is an equivalent obligation to third parties arising from a past event, the amount of the provision can be reliably estimated and the outflow of resources is deemed to be more likely than not.

A provision for restructuring measures is only recognized if the general requirements and those of IAS 37.72 are cumulatively met beforehand. According to IAS 37.72, a detailed, formal restructuring plan must additionally be drawn up and communicated to the persons affected. It is highly probable that the company can no longer withdraw from the resulting obligation.

As neither the time of occurrence nor the amount of the obligation is subject to uncertainty, liabilities in the personnel area such as vacation pay, and pre-retirement schemes are recognized under other liabilities.

If a provision is likely to occur within an ordinary business cycle, it is shown as current in the balance sheet. This period may also extend for longer than a year in individual cases. Non-current provisions with a term of more than one year are discounted to the balance sheet date on the basis of appropriate interest rates provided that the interest effect is classified as material.

Assets and liabilities held for sale

Non-current assets (or a disposal group) are classified as held for sale according to IFRS 5.6 – 9 if the associated carrying amount is mainly realized by a sales transaction or a distribution to shareholders and not by continued use. For this to be the case, the asset (or disposal group) in its current state under conditions that are established practice and common for the sale of such assets (or disposal groups) must be immediately available for sale and such sale must be highly probable. A sale is regarded as highly probable if the responsible management level has adopted a plan for the sale of the asset (or disposal group) and has actively started searching for a buyer and executing the plan. In addition, the asset (or disposal group) must actually be offered for sale at a price that adequately reflects its current fair value. The disposal must be expected to qualify for recognition as a completed sale within one year from the date of classification. Non-current assets and disposal groups held for sale are measured at the lower of carrying amount and fair value, less disposal costs. This does not apply to items that are presented within the disposal group but do not fall within the scope of IFRS 5.

Share-based compensation

A small number of people participate in the employee share program of Midea Group. Settlement is effected by means of equity instruments of Midea Group. The fair value at the date share-based payment arrangements are granted to employees is recognized as an expense with a corresponding increase in equity over the period in which the employees become unconditionally entitled to the awards. The amount recognized as an expense is adjusted to reflect the number of awards for which the relevant service conditions and non-market performance conditions are expected to be met, so that the final amount recognized as an expense is based on the number of awards that meet the relevant service conditions and non-market performance conditions at the end of the vesting period. For share-based compensation awards with non-vesting conditions, the grant-date fair value is determined by reference to those conditions and no adjustment is made for differences between expected and actual outcomes. As the effects of this on the Group are of secondary importance, no further explanations or disclosures are provided.

The fair value of the amount payable to employees in respect of stock appreciation rights that are settled in cash is recognized as an expense with a corresponding increase in liabilities over the period in which the employees become unconditionally entitled to those payments. The liability is remeasured at each reporting date and at the settlement date based on the fair value of the stock appreciation rights. Any changes in the liability are recognized in profit or loss.

Impact of the coronavirus pandemic and climate change

In connection with the global spread of the COVID-19 virus, the management of KUKA Group has analyzed the resulting risks and effects on accounting in fiscal 2021. For example, higher default risks according to IFRS 9 for trade receivables were taken into account for specific customers. Furthermore, a review was carried out to determine whether a triggering event existed in relation to goodwill, other intangible assets and property, plant and equipment, deferred tax assets, inventories and contract assets as a result of the potential impact of the coronavirus pandemic.

The measures taken to provide economic support or other bridging measures in conjunction with the coronavirus pandemic varied from country to country. Where possible and appropriate, KUKA Group made use of the available measures, such as short-time working, but to a lesser extent than in the previous year.

Since 2008, KUKA has regularly participated in the Carbon Disclosure Project, which analyzes information relating to climate risks from a financial perspective. KUKA's rating in the Climate Change and Water Security categories remained unchanged at C. KUKA operates in a highly dynamic, innovation-driven market environment, which is being continuously redefined. The increasing digitalization of production and logistics, and the cooperative networking of humans and machines are fundamentally changing the world of work. Social factors such as these, as well as the ecological threat posed by climate change, call for the responsible use of resources. Energy consumption in production, waste and water management are the main focal points of KUKA Group's environmentally relevant topics. CO_2 emissions are generated through energy consumption. This includes electricity and heat, but also the vehicle fleet and logistics. KUKA Group ensures that negative impacts of energy consumption are as low as possible. In order to reduce emissions of CO_2 and other greenhouse gases, KUKA Group invested in the production of charging stations for e-vehicles in the year under review, as well as making expenditures for the use of green electricity. Furthermore, KUKA expects to achieve thermal energy savings through a building refurbishment at the Augsburg site in 2021. Measures designed to achieve these savings include insulating the roof, replacing outdated air heaters with ceiling-mounted radiant heating panels, and using advanced measurement and control technology. Additionally, an older decentralized refrigeration system has been decommissioned and connected to the KUKA refrigeration network. Finally, the implementation of a New Office concept with desk sharing led to more efficient utilization of office space.

The identification and assessment of climate-related risks requires consideration of a long-term time horizon. The assumptions underlying the forward-looking estimates and valuations of assets and liabilities take into account all material risks and opportunities. Identified risks – including risks arising from sustainability issues – are assessed throughout the Group according to their potential impact on the company's business development and the achievement of corporate targets (such as revenues and EBIT). This also applies to changes in the legal framework that influence sustainability factors. The analysis is performed qualitatively and, if possible, quantitatively, taking into account the probability of occurrence. In the year under review, this did not have any significant impact on the results of operations, net assets and financial position.

Assumptions and estimates

KUKA Group's consolidated financial statements are prepared in compliance with the IFRS standards mandatory in the EU. In some cases, the structure of the rules and regulations means that estimates and assumptions have to be made which may subsequently change and deviate from the actual values. The assumptions and estimates could also have been made differently by the company management in the same reporting period for equally justifiable reasons. In the application of accounting policies, the company has made the following discretionary decisions, which in some cases have a significant effect on the amounts in the annual financial statements. Assumptions and estimates were used within KUKA Group for the following matters:

- Definition of the scope of consolidation
- Development costs
- Goodwill impairments
- Impairments of brand names with an indefinite useful life
- Deferred tax assets on loss carryforwards
- Impairment losses on trade receivables
- Contract assets and contract liabilities
- Pensions and other post-employment benefits
- Provisions

Definition of the scope of consolidation

If KUKA Group has existing rights to direct the significant operations of a company, the latter is referred to as a subsidiary. Significant operations are those which have a material impact on the profitability of the company. Control is deemed to exist if KUKA Group is exposed to variable returns from its relationship with a company and can exert influence on the returns through its power to direct the significant operations. As a rule, the possibility of exercising control is based on KUKA Group having direct or indirect majority voting rights. Often, additional parameters are necessary for the assumption of control over a subsidiary. These include additional contractual agreements, which must be included in the assessment of the overall construct. A final assessment of the type of consolidation can only be made after all the relevant factors have been evaluated. Joint ventures are based on joint agreements, which exist if KUKA Group shares the management of activities conducted with a third party on the basis of a contractual agreement. Joint management is only present if decisions on significant activities require unanimous agreement from the parties involved. In the case of joint ventures the parties exercising the joint management hold rights to the net assets of the agreement. They are accounted for using the equity method, which is also applied to associated companies. Here, KUKA Group generally exercises a significant influence based on a shareholding of between 20% and 50%. Ultimately, the assessment of all parameters of the respective relationship is decisive for determining the type of consolidation.

Development costs

The requirements for capitalization have already been described in the accounting and valuation methods. However, the recoverability of the capitalized amounts must also be determined on the basis of estimates. For this purpose, management must make assumptions concerning the expected future cash flows from assets, the applicable discount rates and the timing of the inflow of expected future cash flows. If projects are still in the development stage, assumptions must additionally be made regarding costs yet to be incurred and the time of completion.

Goodwill

Goodwill existing within KUKA Group must be tested for impairment at least once a year. For each cash generating unit (CGU) to which goodwill is allocated, an estimate of the respective value in use must be made. To determine the value in use, management must estimate the future cash flows of the respective CGUs. Additionally, an appropriate discount rate must be selected to determine the present value of the cash flows. The selected discount rate is influenced by volatility in capital markets and interest rate trends. Exchange rate fluctuations and expected economic developments also affect the expected cash flows. Furthermore, continuous review is necessary to determine whether there is any indication of impairment. In addition to changes in individual parameters that affect computation such as a significant increase in market yields, a particular focus is placed on changes with an adverse effect on the company in the technological, market, economic or legal environment in which it operates. By means of these indicators KUKA regularly observes whether a triggering event is present that would necessitate an impairment test in accordance with IAS 36 for goodwill, but also for other non-current assets. For details about the carrying amounts of the assets recognized as goodwill and the performance of the impairment tests please refer to the discussion under note 7.

Brand names with an indefinite useful life

KUKA Group assesses the intrinsic value of brand names with an indefinite useful life at least once a year. This involves estimating the future cash flows based on a potentially fictitious licensing income and selecting an appropriate discount rate for calculating the present value of these cash flows for each brand name. In this case too, the selected discount rate, for example, is influenced by volatility in capital markets and interest rate trends. The expected cash flows are also influenced by exchange rate fluctuations and the expected economic developments.

Deferred tax assets on loss carryforwards

Deferred tax assets for loss carryforwards are recognized to the extent that it is probable that taxable income will be available such that the loss carryforwards can actually be used. The determination of the amount of deferred tax assets requires an estimate on the part of management regarding the expected timing and amount of anticipated future taxable earnings as well as future tax planning strategies. In the event of a series of losses in the recent past, deferred tax assets are only recognized to the extent that there is convincing evidence that sufficient taxable earnings will be available in excess of taxable temporary differences. In assessing the probability that taxable earnings will be available, identifiable causes are also ascertained which in all probability will not recur. For details please refer to the explanations under note 5.

Valuation allowances on trade receivables

The valuation allowance on receivables includes, to a significant extent, estimates and assessments of individual receivables based on the creditworthiness of the respective customer, current economic developments and the analysis of historical bad debts on a portfolio basis. As far as the company derives the impairment on a portfolio basis using historical default rates, a decrease in the volume of receivables reduces such provisions accordingly and vice versa.

Contract assets and contract liabilities

In the Systems, Swisslog and Swisslog Healthcare segments in particular, there is a significant share of business from long-term projects which are accounted for over time in accordance with the provisions of IFRS 15.35. Revenue from the project is recognized depending on the percentage of completion. Particular emphasis is placed on the careful estimate of the progress of the work performed. Depending on the method used to determine the percentage of completion, the most important estimates include the total order costs, the costs yet to be incurred until completion, the total project revenues and risks as well as other assessments. The management team responsible for the respective project continuously monitors all estimates on a monthly basis and adjusts these as needed. Depending on the project progress and the consideration received, there is a contractual asset or a contractual liability for each project.

Pensions and other post-employment benefits

Expenditures under defined-benefit plans and other post-employment benefits are determined on the basis of actuarial calculations. The actuarial calculations are prepared on the basis of assumptions with respect to discount rates, future increases in wages and salaries, mortality rates and future pension increases. In line with the long-term orientation of these plans, such estimates are subject to significant uncertainties. Please see note 23 for further details.

Provisions

To a considerable degree, the designation and measurement of provisions for impending losses from contracts, of provisions for warranty obligations and of litigation provisions are subject to estimates being made.

KUKA Group recognizes a provision for impending losses when the current estimated total costs arising from the respective contract exceed the expected total revenue. These estimates may change due to new knowledge as the project progresses because long-term construction contracts in particular are awarded based on invitations to tender. Deficit orders are identified based on continuous project costing. This makes it necessary for the performance requirements and warranty costs to be assessed.

KUKA Group is also confronted with various legal disputes, the proceedings of which may result in penal or civil sanctions or fines. A provision is always recognized when it is likely an obligation will result that will lead to future cash outflows and the amount of which can be reliably assessed. The underlying issues are often complex and associated with great uncertainties. Judgment whether a present obligation arising from a past event is to be recognized on the balance sheet date, whether future cash outflows are probable and the obligation can be reliably assessed is therefore largely at the discretion of management. The company, with the assistance of external legal professionals, regularly assesses the respective stage of the proceeding. New findings can change the assessment and it may be necessary to adjust the provision accordingly. For further details please refer to note 24.

The effects of the coronavirus pandemic on the assumptions and estimates are presented in the section “Effects of the coronavirus pandemic”.

Changes in accounting and valuation methods

In fiscal 2021, KUKA Group took the following revised standards into account in the consolidated financial statements for the first time:

- Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16 – Interest Rate Benchmark Reform (Phase 2)
- Amendments to IFRS 16 – COVID-19-Related Rent Concessions

Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16 – Interest Rate Benchmark Reform (Phase 2)

The amendments from Phase 2 include a relief (practical expedient) that affects the accounting for financial instruments measured at amortized cost. As a direct consequence of the IBOR reform, there is a change in the basis for determining contractual cash flows by updating the effective interest rate. This means that no profit or loss is recognized immediately. This relief also applies to insurers applying the temporary exemption from IFRS 9 and lessees under IFRS 16.

In addition, the amendments from Phase 2 set an end date for Phase 1 relief for non-contractually specified risk components in hedging relationships. These may no longer be applied prospectively at the earlier of when changes are made to the non-contractually specified risk component or when the hedging relationship is terminated.

The amendments from Phase 2 also provide additional time-limited relief with regard to the application of specific hedge accounting requirements of IAS 39 and IFRS 9 for hedging relationships directly affected by the IBOR reform. For IFRS 7, the amendments also result in an expansion of the disclosure requirements in connection with the IBOR reform.

Amendments to IFRS 16 – COVID-19-Related Rent Concessions

As a result of the coronavirus pandemic, the IASB has approved relief for lessees. Lessees may elect whether or not to treat lease concessions as a modification and account for them accordingly. The relief can only be applied if the change in lease payments results in a change in consideration. This must be substantially equal to or less than the consideration in the lease prior to modification. Additionally, the reduction may only affect lease payments that were originally due by June 30, 2022. Furthermore, no other material changes may be made to the existing lease to qualify for the relief.

The amended standards described above had no material impact on KUKA Group's consolidated financial statements.

The following standards, standard amendments and interpretations that were approved by the balance sheet date and have in part already been adopted into EU law, have not yet had an effect on the financial statements as at December 31, 2021.

Effects of new accounting standards to be applied as of the 2022 fiscal year

KUKA does not plan to apply at an early stage the new or amended standards and interpretations whose application is not mandatory until later fiscal years. The effects of these new standards are being continuously evaluated. Standards whose application is mandatory as of January 1, 2022 are not expected to have any material impact on the consolidated financial statements.

Standard/Interpretation	Effective date	Planned application by KUKA AG
Amendments to IFRS 3, IAS 16, IAS 37 and Annual Improvements 2018–2020	Jan. 1, 2022	Fiscal 2022[1]
Amendments to IAS 1: Classification of Liabilities	Jan. 1, 2023	Fiscal 2023[1]
IFRS 17 – Insurance Contracts	Jan. 1, 2023	Fiscal 2023[1]
Amendment to IAS 1, IFRS Practice Statement 2 and IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors	Jan. 1, 2023	Fiscal 2023[1]
Amendment to IAS 12 Deferred Taxes Relating to Assets and Liabilities Arising from a Single Transaction	Jan. 1, 2023	Fiscal 2023[1]

[1] Pending adoption (endorsement) by the European Union

Explanation of items in the financial statements

Notes to the Group income statement

1. Sales revenues

KUKA Group recognizes sales revenues when a performance obligation has been fulfilled, for example, through the transfer of promised goods to the customer or a service rendered. With the sale of products such as industrial robots, the performance obligation is fulfilled at a specific point in time. KUKA Group also provides services over time, for example in the context of construction contracts. In these, the performance obligations are fulfilled over a specific period of time. In the case of predominantly downstream services, performance takes place both over a period of time and at a specific point in time.

The breakdown of revenues by region, based on the regional allocation of the subsidiaries, and also by segment is presented below.

	EMEA		Americas		APAC		Group	
in € millions	2020	2021	2020	2021	2020	2021	2020	2021
Services provided over a period of time	564.7	656.1	664.5	1,002.4	193.8	266.6	1,423.0	1,925.1
Services provided at a specific point in time	661.3	723.2	165.5	172.8	323.7	465.1	1,150.5	1,361.1
Total	**1,226.0**	**1,379.3**	**830.0**	**1,175.2**	**517.5**	**731.7**	**2,573.5**	**3,286.2**

	Systems		Robotics		Swisslog		Swisslog Healthcare		China		Corporate Functions / Consolidation		Group	
in € millions	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021
Services provided over a period of time	592.2	901.4	150.1	193.7	479.7	592.4	191.7	190.3	135.6	205.1	-126.3	-157.8	1,423.0	1,925.1
Services provided at a specific point in time	79.4	76.9	749.1	827.1	48.0	58.5	12.5	14.7	261.5	383.9	0.0	0.0	1,150.5	1,361.1
Total	**671.6**	**978.3**	**899.2**	**1,020.8**	**527.7**	**650.9**	**204.2**	**205.0**	**397.1**	**589.0**	**-126.3**	**-157.8**	**2,573.5**	**3,286.2**

The anticipated sales revenues from the existing order backlog of €2,311.9 million (2020: €1,992.6 million) are expected to be recognized in the following periods:

in € millions	2020	2021
Anticipated sales revenues from the existing order backlog	1,992.6	2,311.9
(of which, not later than one year)	(1,372.9)	(1,380.1)
(of which, later than one year)	(619.7)	(931.8)

No use has been made of the exemption provided for in IFRS 15.121. Estimated amounts of variable consideration, which may only be recognized under certain conditions, are not included in the expected sales revenues.

In contrast to the previous year, more than 10% of the total revenues amounting to €447.4 million were generated with one customer in the 2021 fiscal year (2020: no customer accounted for more than 10% of total revenues).

2. Cost of sales, selling expenses, research & development expenses and general and administrative expenses

The breakdown of the cost of sales, selling expenses, research & development expenses and general and administrative expenses is shown below:

in € millions	Cost of sales 2020	Cost of sales 2021	Selling expenses 2020	Selling expenses 2021	Research and development expenses 2020	Research and development expenses 2021	General and administrative expenses 2020	General and administrative expenses 2021	Total 2020	Total 2021
Cost of materials	1,297.2	1,801.0	6.1	5.7	29.5	19.1	8.2	6.7	1,341.0	1,832.5
Personnel expenses	584.9	617.8	150.4	158.8	106.6	113.2	140.3	155.6	982.2	1,045.4
Depreciation and amortization	54.0	52.3	17.0	15.4	34.2	35.2	41.2	37.3	146.4	140.2
Other expenses and income	133.3	118.4	83.4	105.0	7.7	-7.9	-13.2	-2.9	211.2	212.6
Total	**2,069.4**	**2,589.5**	**256.9**	**284.9**	**178.0**	**159.6**	**176.5**	**196.7**	**2,680.8**	**3,230.7**

The cost of sales increased from €2,069.4 million in 2020 to €2,589.5 million in 2021 due to the higher revenue volume. The higher use of materials resulted in an increased cost of materials within the cost of sales. Within the cost of sales, foreign currency gains of €31.5 million (2020: €34.6 million) and losses of –€39.0 million (2020: –€42.8 million) from operational foreign currency transactions are recognized under other expenses and income.

Selling expenses rose by €28.0 million year on year. Both the higher personnel expenditure and the other expenses had an increasing effect. The increase in other expenses and income within selling expenses is attributable to the higher risk provision for expected bad debts.

Research and development costs decreased in total. Savings were achieved by relocating research and development activities from Austin (USA) to Germany and subsequently closing the American location. Amortization of research and development costs increased slightly and included impairment losses of €6.0 million (2020: €9.7 million) for projects no longer pursued. Amortization of interest on borrowings capitalized in prior years remained unchanged (2021: €0.3 million; 2020: €0.3 million).

Administrative expenses increased compared with the previous year, largely due to higher personnel expenditure. On the other hand, there was a decrease in amortization. The administrative projects that were no longer pursued, such as an IT project from the previous year and a site expansion project in the year under review, were written off on an unscheduled basis (2021: €4.6 million; 2020: €6.2 million).

Total functional costs rose by 20.5% in fiscal 2021 (2020: decrease of 15.1%).

Personnel expenses are directly allocated to the functional areas. The following figures result:

in € millions	2020	2021
Wages and salaries	812.4	856.3
Social security payments and contributions for retirement benefits and provident funds	169.8	189.1
(of which, for retirement benefits)	(24.3)	(28.7)
Personnel expenses	**982.2**	**1,045.4**

The table below shows the annual average number of employees in KUKA Group at the balance sheet date:

Employees by functional areas	Annual average		Balance sheet date			
	2020	2021	Total 2020	Total 2021	of which, Germany	of which, abroad
Manufacturing	9,079	9,302	9,076	9,478	2,563	6,915
Sales	1,588	1,519	1,509	1,517	511	1,006
Administration	1,473	1,499	1,549	1,495	533	962
Research and development	1,234	1,245	1,251	1,302	535	767
	13,374	**13,565**	**13,385**	**13,792**	**4,142**	**9,650**
Apprentices	256	259	270	289	205	84
Student trainees	48	42	45	47	29	18
Total	**13,678**	**13,866**	**13,700**	**14,128**	**4,376**	**9,752**

3. Other operating income and expenses

The other operating income and expenses include income and expenses that are not allocated to any of the functional areas (cost of sales, selling expenses, research & development, general and administrative expenses) or reported in another, separate item. Other operating income grew by €4.9 million in fiscal 2021 to €14.9 million (2020: €10.0 million). This included income from the sale of real estate no longer required and from the sale of individual assets in the Swisslog Healthcare segment. Furthermore, other operating income includes grants, special discounts and income from settlement agreements. Other operating expenses, on the other hand, fell by €5.2 million from –€14.5 million in 2020 to –€9.3 million in 2021. This included, among other things, losses from the disposal of financial assets in the previous year and losses from the disposal of intangible assets in the area of licenses and other rights in the year under review (2021: –€1.4 million; 2020: –€1.5 million) as well as other taxes (2021: €5.6 million; 2020: €4.7 million).

4. Financial result

The financial result, comprising financial expenses and financial income, showed income of €13.5 million in the year under review. This corresponds to an increase of €10.5 million on the previous year (December 31, 2020: €3.0 million).

in € millions	2020	2021
Gains from changes in the fair value of financial investments	**–**	**4.0**
Losses from changes in the fair value of financial investments	**-2.9**	**-0.2**
Interest income from finance leases	13.5	11.2
Remaining interest and similar income	13.4	15.9
Interest and similar income	**26.9**	**27.1**
Interest component for allocations to pension provisions	-1.0	-0.6
Guarantee commissions	-1.4	-1.4
Interest expense for promissory note loans (Schuldschein)	-7.6	-6.6
Capitalized financing costs	0.7	0.2
Interest expenses IFRS 16	-5.5	-5.2
Other interest and similar expenses	-5.2	-5.6
Interest and similar expenses	**-20.0**	**-19.2**
Foreign currency gains	**41.7**	**45.6**
Foreign currency losses	**-42.7**	**-43.8**
Financial result	**3.0**	**13.5**

The result from changes in the fair value of financial investments increased to €3.8 million in fiscal 2021 (2020: –€2.9 million). In the previous year, one other investment in the Swisslog Healthcare segment experienced a negative change in value, whereas in the year under review the change in value is attributable to the proceeds from the sale of the shares in Servotronix Motion Ltd., Israel. The ongoing changes in the fair value of an interest rate swap also had a positive effect.

Interest income in the year under review of €27.1 million increased slightly compared with the previous year (2020: €26.9 million) and consisted mainly of interest income from finance leases (2021: €11.2 million; 2020: €13.5 million) at KTPO and interest income on bank balances.

Interest expenses decreased slightly from –€20.0 million in 2020 to –€19.2 million in 2021. The net interest component of pension provisions and the interest expenses for IFRS 16 were down year on year. The guarantee commissions remained unchanged. Interest expenses for the promissory note loans (Schuldschein) of –€6.6 million (2020: –€7.6 million) were also lower due to repayments made in the previous year. Other interest and similar expenses increased compared with the previous year. This item includes, among other things, the interest expenses for the inter-company loan from Midea Group. Please refer to note 26 for more detailed information on the promissory note loans (Schuldschein), the guarantees and the inter-company loan.

The foreign currency gains rose from €41.7 million in the previous year to €45.6 million. The foreign currency losses also increased from –€42.7 million in the previous year to –€43.8 million. Foreign currency gains and losses were no longer netted against each other. To ensure comparability of the figures, the presentation of the previous year's figures has been adjusted accordingly.

5. Taxes on income

Tax expense

Income tax expense breaks down by origin as follows:

in € millions	2020	2021
Current taxes	-26.4	-8.1
(of which, relating to other periods)	(-1.6)	(15.9)
Deferred taxes	42.0	-17.8
(of which, from temporary differences)	(27.7)	(-14.2)
(of which, from loss carryforwards)	(14.3)	(-3.6)
Tax expense	**15.6**	**-25.9**

Of the current expenses for income taxes, –€3.2 million is attributable to domestic expenditure (2020: –€13.5 million) and –€4.9 million to foreign expenditure (2020: –€12.9 million). Non-period current tax income of €15.9 million (2020: income of €1.6 million) arose in German and foreign operations.

Deferred tax expenses relate to Germany in the amount of –€21.2 million (2020: income of €35.9 million) and deferred tax income relates to other countries in the amount of €3.4 million (2020: income of €6.1 million). The deferred tax expenses result from temporary valuation differences, mainly in Germany, amounting to –€19.6 million and from loss carryforwards amounting to –€1.5 million.

The expected tax expense based on earnings before taxes and the applicable tax rate for the KUKA companies in Germany remained unchanged at 32.0% and leads to the following actual tax expense:

in € millions	2020	2021
Earnings before tax expense	**-110.2**	**75.3**
Expected tax expense	**35.3**	**-24.0**
Tax rate-related differences	11.2	16.9
Tax reductions due to tax-exempt income	11.7	29.2
Tax increases due to non-deductible expenses	-16.5	-9.1
Tax expenses (–)/tax income (+) for prior years	-0.6	10.5
Change in allowance on deferred taxes	-26.4	-51.1
First-time recognition of previously unrecognized deferred tax assets on tax loss carryforward	0.7	1.8
Change in permanent differences	5.4	2.9
Tax impact of investments accounted for by the equity method	-0.5	0.2
Effects resulting from tax rate changes	0.8	0.2
Tax effect due to non-creditable withholding taxes	-6.0	-3.1
Other differences	0.5	-0.3
Taxes on income (actual tax expense)	**15.6**	**-25.9**

The applicable tax rate in Germany still comprises corporate income tax of 15.0% as well as a solidarity surcharge of 5.5% and trade tax of 16.2% based on a uniform assessment rate, as was the case in the previous year.

In principle, deferred taxes were recognized on the basis of the applicable tax rate for each company in question.

There are no tax credits for which deferred taxes would need to be accounted.

Deferred taxes

The value of deferred tax assets and liabilities due to temporary differences and tax loss carryforwards in the Group is associated with the following items:

	Deferred tax assets		Deferred tax liabilities	
in € millions	Dec. 31, 2020	Dec. 31, 2021	Dec. 31, 2020	Dec. 31, 2021
Non-current assets	61.3	80.7	98.9	101.1
Current assets	49.6	56.6	57.1	65.1
Provisions	72.9	66.0	14.6	19.2
Liabilities	53.2	63.9	28.7	34.4
Subtotal	**237.0**	**267.2**	**199.3**	**219.8**
Balancing item	-165.2	-198.4	-165.2	-198.4
Deferred taxes on temporary differences	**71.8**	**68.8**	**34.1**	**21.4**
Deferred taxes on tax loss carryforwards	55.9	27.0	–	–
Total	**127.8**	**95.8**	**34.1**	**21.4**
(of which, from items recognized in equity)	(10.9)	(9.6)	(-0.2)	(-0.2)

Valuation allowances to the carrying amount of deferred tax assets are recognized if the realization of the expected benefit of the deferred taxes in the planning period is not sufficiently probable. The estimates made are subject to change over time, which may result in the reversal of the valuation allowance in subsequent periods.

The recognized values on the balance sheet are written off in the event that the tax benefits that they represent are no longer expected to be realized. No deferred taxes were recognized on temporary differences amounting to €126.6 million (2020: €128.2 million).

In the loss carryforwards of €846.4 million (2020: €765.1 million), loss carryforwards amounting to €726.0 million (2020: €567.4 million) are not considered in the accounting of deferred taxes, which can for the most part be utilized indefinitely. An amount of €136.0 million from unrecognized loss carryforwards (2020: €71.0 million) will expire by 2027 if it is not utilized.

The loss carryforwards for which deferred taxes were capitalized relate to the total loss carryforwards as follows:

in € millions	Loss carryforwards for which deferred taxes were capitalized		Total existing loss carryforwards	
	Dec. 31, 2020	Dec. 31, 2021	Dec. 31, 2020	Dec. 31, 2021
Swisslog (Deutschland) GmbH, Dortmund	–	–	59.9	81.7
KUKA Industries GmbH & Co. KG, Obernburg	–	–	102.4	118.1
KUKA Aktiengesellschaft, Augsburg	149.8	60.6	259.8	314.9
Other	47.9	59.8	343.0	331.7
Total	**197.7**	**120.4**	**765.1**	**846.4**

Existing loss carryforwards totaling €331.7 million (2020: €343.0 million) and summarized under “Other” originate in the amount of €55.2 million (2020: €57.3 million) from China and in the amount of €122.2 million (2020: €93.2 million) from Switzerland. Of the loss carryforwards from China and Switzerland, loss carryforwards amounting to €29.1 million (2020: €18.8 million) have been used for the accounting of deferred tax assets, for which deferred tax assets of €5.1 million (2020: €4.0 million) have been recognized. The remaining loss carryforwards originate from various countries.

Deferred tax income in the amount of €3.0 million (2020: €0.7 million) results from the recognition of deferred tax receivables on loss carryforwards from earlier periods which until now had not been included in or written down from the tax accrual/deferral. In the fiscal year, the valuation adjustment of deferred tax assets on loss carryforwards and on temporary differences totaling –€46.8 million (2020: –€26.4 million) had an effect on profit or loss.

Where deferred tax assets have not been impaired, it is generally expected, on the basis of a risk-adjusted and at the same time reliable planning horizon, that this tax-reducing potential will be utilized via taxable income, which is likely based on the expectations of Group companies. Planning uncertainty is accounted for by risk discounts on the tax planning calculations that increase over time.

As at the balance sheet date, the Group companies which had generated a tax loss in the current or prior period reported a net surplus of deferred tax assets totaling €96.5 million (2020: €93.7 million), mainly resulting from the German tax group of KUKA AG.

The Group companies of the German tax group generated tax losses in previous years, which led to a partial non-recognition of deferred tax assets in the past year. As a result of tax structuring carried out in 2021, future taxable income in the German tax group is planned. To the extent that the planned profits are probable within the meaning of IAS 12, deferred tax assets are recognized in the balance sheet.

For companies with a history of losses, deferred tax asset surpluses are not recognized unless there is convincing evidence of future taxable profits.

In accordance with IAS 12, deferred tax items must be recognized for the difference between the proportionate equity of a subsidiary recognized on the Group balance sheet and the investment carrying amount of this subsidiary on the tax balance sheet of the parent company (so-called “outside basis differences”) if it is likely that this difference will be realized. Since both KUKA Aktiengesellschaft and the subsidiaries in question are corporations, these differences are predominantly tax-exempt under section 8b of the Corporation Tax Law (KStG) upon realization and thus are permanent in nature. According to IAS 12.39, no deferred tax liability should be recognized even for temporary differences (e.g. those resulting from the 5% flat-rate allocation under section 8b KStG) if it is not likely, given control by the parent company, that these differences will reverse in the foreseeable future. Since no such reversal is expected, no deferred tax items had to be recognized on the balance sheet for this purpose. There are outside basis differences in the amount of €36.5 million (2020: €28.7 million).

Overall, the change in the balance of deferred tax assets and liabilities of –€19.3 million (2020: €48.7 million) comprises amounts affecting net income totaling –€17.8 million (2020: €42.0 million) and changes in deferred taxes on pension obligations, for the most part not affecting net income, amounting to –€2.0 million (2020: €6.2 million). There is no effect from deconsolidation (2020: €0.0 million) or the initial accounting for newly acquired fully consolidated companies. There were also relevant foreign exchange effects amounting to €0.5 million (2020: €0.5 million).

6. Earnings per share

Undiluted/diluted earnings per share are as follows:

	2020	2021
Net income for the year attributable to the shareholders of KUKA AG (in € millions)	-103.1	39.0
Weighted average number of shares outstanding (no. of shares)	39,775,470	39,775,470
Diluted/undiluted earnings per share (in €)	**-2.59**	**0.98**

In accordance with IAS 33, undiluted earnings per share are calculated from the earnings due to the shareholders of KUKA Aktiengesellschaft and the weighted average number of shares outstanding for the year.

The weighted average number of shares in circulation remained unchanged at 39.8 million as at the balance sheet date (December 31, 2020: 39.8 million shares).

Notes to the Group balance sheet: Assets

7. Intangible assets

The breakdown of the intangible fixed asset items and their development in the year under review and the previous year are shown in the following two tables.

Schedule of changes in intangible fixed assets in 2021

	Acquisition/manufacturing costs						Accumulated depreciation and impairment losses						Net carrying amount
in € millions	Status as of Jan. 1, 2021	Exchange rate differences	Additions	Disposals	Reclassifica-tions	Status as of Dec. 31, 2021	Status as of Jan. 1, 2021	Exchange rate differences	Additions	Disposals	Reclassifica-tions	Status as of Dec. 31, 2021	Status as of Dec. 31, 2021
1. Licenses and other rights	303.1	10.5	7.7	-3.0	9.8	328.1	191.1	5.6	25.1	-1.3	6.2	226.7	101.4
2. Self-developed software and other development costs	159.7	5.9	31.3	-6.9	–	190.0	55.1	2.6	28.4	-6.9	–	79.2	110.8
3. Goodwill	321.8	10.0	–	–	–	331.8	8.6	–	–	–	–	8.6	323.2
4. Advances paid and construction in progress	9.7	0.1	0.9	–	-9.8	0.9	6.2	–	–	–	-6.2	–	0.9
	794.3	**26.5**	**39.9**	**-9.9**	**–**	**850.8**	**261.0**	**8.2**	**53.5**	**-8.2**	**–**	**314.5**	**536.3**

Schedule of changes in intangible fixed assets in 2020

	Acquisition/manufacturing costs						Accumulated depreciation and impairment losses						Net carrying amount
in € millions	Status as of Jan. 1, 2020	Exchange rate differences	Additions	Disposals	Reclassifica-tions	Status as of Dec. 31, 2020	Status as of Jan. 1, 2020	Exchange rate differences	Additions	Disposals	Reclassifica-tions	Status as of Dec. 31, 2020	Status as of Dec. 31, 2020
1. Licenses and other rights	308.4	-2.8	3.0	-6.8	1.3	303.1	170.7	-1.8	28.8	-6.6	–	191.1	112.0
2. Self-developed software and other development costs	152.1	-0.4	30.1	-22.1	–	159.7	49.0	-0.3	27.9	-21.5	–	55.1	104.6
3. Goodwill	323.7	-1.9	–	–	–	321.8	8.4	–	0.2	–	–	8.6	313.2
4. Advances paid and construction in progress	9.4	0.1	1.5	–	-1.3	9.7	–	–	6.2	–	–	6.2	3.5
	793.6	**-5.0**	**34.6**	**-28.9**	**–**	**794.3**	**228.1**	**-2.1**	**63.1**	**-28.1**	**–**	**261.0**	**533.3**

KUKA Group recognized brands in the amount of €24.9 million (2020: €24.0 million), which are always subject to an impairment test when a triggering event occurs, but at least once a year. The calculation is based on the value in use. The result of the impairment test for the 2021 fiscal year did not indicate any need for impairment, thus confirming the recoverability of the residual carrying amount.

Goodwill

Goodwill amounted to €323.2 million in the year under review (2020: €313.2 million). The increase in goodwill related to currency effects. The allocation of goodwill to the cash generating units (CGUs) listed below corresponded to the current segment structure. The pre-tax discount rate (weighted average cost of capital (WACC)) used at CGU level is also presented below.

	Dec. 31, 2020		Dec. 31, 2021	
in € millions	Goodwill	WACC (%)	Goodwill	WACC (%)
Systems	27.3	11.1	27.7	9.6
Robotics	69.0	12.8	69.2	11.8
Swisslog	126.2	10.2	132.1	9.2
Swisslog Healthcare	56.6	8.0	59.3	7.1
China	34.1	13.1	34.9	11.2
Total	**313.2**		**323.2**	

The impairment test carried out in the current year under review, which was again performed as at September 30, was based on a three-year detailed planning period and a further period of two years in which strategic planning was applied. Together with the market-specific growth rate of 2.0%, these five years formed the basis for calculating the perpetuity.

In the context of determining the pre-tax discount rate (weighted average cost of capital (WACC)), the cost of equity capital and borrowing costs were determined on the basis of segment-specific peer groups. These companies had similar activity and product portfolios to KUKA Group and thus comprise the most important national and international competitors. The ratios for the cost of equity capital and the cost of borrowed capital were determined by CGU based on the average leverage ratios of the respective peer group for the last two years. The tax rates used per segment ranged between 21.0% and 27.6% (Systems CGU: 21.0% (2020: 27.0%); Robotics CGU: 27.6% (2020: 25.5%); Swisslog CGU: 26.4% (2020: 21.2%); Swisslog Healthcare CGU: 27.6% (2020: 27.6%); China CGU: 25.0% (2020: 25.0%)).

The market risk premium for the respective CGUs was one of the most important components in the WACC calculation. A market risk premium of 7.00% (2020: 7.50%) was applied in all business segments. The market risk premium decreased in comparison with the previous year and was thus at the pre-crisis level. The beta factor determined as a two-year average of the respective peer group decreased year on year and amounted to 1.099 (2020: 1.142) for the Systems CGU, 1.23 (2020: 1.281) for the Robotics CGU, 1.075 (2020: 1.134) for the Swisslog CGU, 0.866 (2020: 0.826) for the Swisslog Healthcare CGU and 1.068 (2020: 1.096) for the China CGU. While observing the possible ranges of the market risk premium, a 1% higher WACC would only marginally influence the goodwill – as marginally as a reduction in sales revenues over the entire planning period by 10% with a correspondingly lower cash flow.

Self-developed software and other product development costs

Research and development expenses decreased from €178.0 million in 2020 to €159.6 million in 2021. IAS 38 stipulates that costs for self-developed software and other product developments must be capitalized if relevant criteria are met. KUKA Group recognizes these expenses at production cost, which includes directly attributable costs and appropriate allocations for overheads and depreciation. Borrowing costs for qualifying assets are taken into account in the production costs based on the Group capitalization rate of 1.46% (2020: 1.73%).

The business segments are working – depending on their focus – on various projects relating to mechanical systems as well as power and control software for robots. In addition, applications for medical technology and automation solutions are being developed or improved. Borrowing costs of €0.2 million were recognized for the 2021 fiscal year (2020: €0.7 million).

As at December 31, 2021, development costs of €110.8 million (2020: €104.6 million) had been capitalized. This corresponds to an increase of €6.2 million compared with the end of fiscal 2020.

At €31.3 million, additions in the year under review were at the prior-year level (2020: €30.1 million). Further information can be found in the research and development report.

In the year under review, impairment losses of €6.0 million (2020: €16.1 million) were recognized on intangible assets for projects no longer being pursued.

8. Tangible assets

The breakdown of the tangible asset items and their development in the year under review and the previous year are shown in the following tables. Please refer to the management report for details of the investment focuses.

Schedule of changes in KUKA Group's tangible assets 2021

	Acquisition/manufacturing costs						Accumulated depreciation and impairment losses						Net carrying amount
in € millions	Status as of Jan. 1, 2021	Exchange rate differences	Additions	Disposals	Reclassifications	Status as of Dec. 31, 2021	Status as of Jan. 1, 2021	Exchange rate differences	Additions	Disposals	Reclassifications	Status as of Dec. 31, 2021	Status as of Dec. 31, 2021
1. Land, similar rights and buildings including buildings on land owned by third parties	335.5	9.4	9.7	-5.6	0.5	349.5	102.2	2.3	14.0	-2.0	0.1	116.6	232.9
2. Technical plant and equipment	175.5	4.8	14.1	-7.8	4.1	190.7	117.2	2.8	13.2	-6.1	–	127.1	63.6
3. Other equipment, factory and office equipment	176.0	3.2	15.6	-6.7	1.2	189.3	127.1	2.2	18.0	-5.6	-0.1	141.6	47.7
4. Advances paid and construction in progress	12.6	0.2	22.1	-0.2	-5.8	28.9	–	–	4.6	–	–	4.6	24.3
	699.6	**17.6**	**61.5**	**-20.3**	**–**	**758.4**	**346.5**	**7.3**	**49.8**	**-13.7**	**–**	**389.9**	**368.5**

Schedule of changes in KUKA Group's tangible assets 2020

	Acquisition/manufacturing costs						Accumulated depreciation and impairment losses						Net carrying amount
in € millions	Status as of Jan. 1, 2020	Exchange rate differences	Additions	Disposals	Reclassifications	Status as of Dec. 31, 2020	Status as of Jan. 1, 2020	Exchange rate differences	Additions	Disposals	Reclassifications	Status as of Dec. 31, 2020	Status as of Dec. 31, 2020
1. Land, similar rights and buildings including buildings on land owned by third parties	308.1	-4.6	11.4	-10.3	30.9	335.5	97.6	-1.3	12.5	-6.6	–	102.2	233.3
2. Technical plant and equipment	177.1	-3.6	13.5	-7.6	-3.9	175.5	111.4	-2.2	14.3	-6.3	–	117.2	58.3
3. Other equipment, factory and office equipment	174.2	-2.5	12.9	-9.6	1.0	176.0	116.7	-1.6	20.1	-8.1	–	127.1	48.9
4. Advances paid and construction in progress	32.9	-0.1	8.3	-0.5	-28.0	12.6	–	–	–	–	–	–	12.6
	692.3	**-10.8**	**46.1**	**-28.0**	**–**	**699.6**	**325.7**	**-5.1**	**46.9**	**-21.0**	**–**	**346.5**	**353.1**

In the year under review, an impairment loss of €4.6 million (2020: €0.0 million) was recognized on tangible assets for projects no longer being pursued.

Government grants

Within KUKA Group, only the gross presentation of government grants in accordance with IAS 20.26 was applied.

Government grants totaling €31.7 million (2020: €14.4 million) were received and directly released to income. There were no contingently repayable grants as of the balance sheet date.

9. Financial investments

In the year under review, no financial investments were made where the shareholding exceeded 10%. A 5.1% interest in Otsaw Technology Solutions Pte. Ltd., Singapore, was acquired as part of the consideration for the sale of current assets in the Healthcare segment. Largely as a result of the disposal of the investment in Servotronix Motion Control Ltd., Israel, classified as FVOCI, the carrying amount of financial investments decreased to €5.0 million at the balance sheet date (2020: €17.1 million). As contractually agreed, the sale was settled on the basis of a put-call option exercised in the year under review. The carrying amount of €14.8 million was derecognized and the difference between the proceeds from the sale and the carrying amount was recognized in the financial result. The changes in value recognized in other comprehensive income, which resulted exclusively from foreign currency developments, were reclassified to revenue reserves.

The following table shows the changes in financial investments by category for the reporting periods ending December 31, 2020 and 2021:

in € millions	FVtPL	FVOCI	Total
Opening balance at January 1, 2020	**8.4**	**15.7**	**24.1**
Additions	1.1	–	1.1
Reclassifications/foreign currency effects	-0.2	-0.1	-0.3
Amounts recognized in profit or loss	-2.7	–	-2.7
Amounts recognized in other comprehensive income	–	-1.2	-1.2
Other changes	-3.9	–	-3.9
Balance at December 31, 2020/ January 1, 2021	**2.7**	**14.4**	**17.1**
Additions	2.0	–	2.0
Disposals/sales proceeds	–	-16.1	– 16.1
Reclassifications/foreign currency effects	0.3	-0.9	-0.6
Amounts recognized in profit or loss	–	1.2	1.2
Amounts recognized in other comprehensive income	–	1.4	1.4
Closing balance at December 31, 2021	**5.0**	**–**	**5.0**

10. Investments accounted for at equity

The number of investments accounted for at equity increased by one entity from four investments in 2020 to five investments in 2021. KUKA Group received shares in Otsaw Swisslog Healthcare Robotics Pte. Ltd., Singapore. This led to a slight increase of €3.3 million in the balance sheet value from €26.4 million in 2020 to €29.7 million in 2021. The Group does not apply the disclosures in the notes pursuant to IFRS 12.B12 and B13, as the investments are in themselves of minor importance for KUKA Group. The profit recognized in fiscal 2021 was €0.8 million (2020: loss of €1.4 million).

11. Leases

KUKA as a lessor

KUKA Toledo Production Operations LLC., Toledo/USA (KTPO)

KUKA Toledo Production Operations LLC, Toledo, USA (KTPO) manufactures Jeep Gladiator bodies under the terms of a pay-on-production contract with Chrysler. The contract is a finance lease and runs until March 2025. A non-current lease receivable of €99.7 million (2020: €119.6 million) and a current lease receivable of €31.6 million (2020: €27.0 million) existed as at the balance sheet date of December 31, 2021. Revenues generated from sales of vehicle bodies are reduced by the fictitious lease payment. The interest component included in the fictitious lease payment is booked under interest result, while the repayment component of this payment reduces the receivables as per schedule.

Sublease – KUKA U.S. Holding Company LLC., Sterling Heights, USA

After the research and development activities were relocated from Austin (USA) to Germany and the American site was closed, the buildings rented in Austin were sublet. KUKA U.S. Holding Company LLC. as the original lessee thus continued to account for the original lease (the head lease) as the lessee and recorded the sublease as the lessor (sublessor). As the sublease was classified as a finance lease, KUKA U.S. Holding Company LLC derecognized the right-of-use asset from the head lease and continued to recognize the original lease liability. At the same time, a net investment in the sublease was recognized. A non-current lease receivable of €1.0 million (2020: €0.0 million) and a current lease receivable of €1.3 million (2020: €0.1 million) existed as at the balance sheet date of December 31, 2021.

Altogether, at the end of the fiscal year, there were non-current lease receivables of €100.7 million (2020: €119.6 million) and current lease receivables of €32.9 million (2020: €28.4 million). Impairment losses on lease receivables in accordance with IFRS 9 amounted to €1.2 million as at the balance sheet date (2020: €1.2 million). Accordingly, the gross value of the current lease receivable amounted to €34.1 million (2020: €29.6 million). For the reconciliation of the impairment losses, please refer to note 29 d).

There was no capital gain or loss in either the year under review or the previous year. Financial income on the net investment in the lease amounted to €11.2 million in fiscal 2021 (2020: €13.5 million).

The reconciliation to the total present value of the outstanding total minimum lease payments for the leases explained above is shown below:

in € millions	2020	2021
Finance lease gross investments	174.4	153.1
(of which, not later than one year)	(41.5)	(47.1)
(of which, later than one year and not later than five years)	(132.9)	(106.0)
Unrealized financial income	26.3	19.5
Present value of outstanding minimum lease payments	**148.0**	**133.6**
(of which, not later than one year)	(28.4)	(32.9)
(of which, later than one year and not later than five years)	(119.6)	(100.7)

KUKA as a lessee

As a lessee, KUKA Group reports buildings, technical equipment, cars and IT hardware, among other items, in its balance sheet. As at the balance sheet date, right-of-use assets valued at €114.7 million (2020: €115.5 million) were capitalized and reported separately in the balance sheet. In the year under review, right-of-use assets in the amount of €35.1 million (2020: €25.5 million) were capitalized. The right-of-use assets per existing asset class are shown below:

in € millions	2020	2021
Right-of-use assets for land and buildings	100.8	101.3
Right-of-use assets for technical equipment	11.7	11.5
Right-of-use assets for other factory and office equipment	1.5	1.1
Other right-of-use assets	1.5	0.8
Total	**115.5**	**114.7**

The right-of-use assets are depreciated over the shorter of the lease term and the useful economic life. The prevailing period within KUKA Group is between 1 and 21 years, with an average of around 4 years. The depreciation recognized in the respective functional areas totaled €35.9 million in the 2021 fiscal year (2020: €37.2 million). The depreciation amount per asset class is shown below.

in € millions	2020	2021
Depreciation of land and buildings	26.8	25.7
Depreciation of technical equipment	8.5	8.8
Depreciation of other factory and office equipment	1.0	0.8
Other depreciation	0.9	0.6
Total	**37.2**	**35.9**

Total cash outflows from leases recognized in the balance sheet amounted to €39.9 million in fiscal 2021 (2020: €39.6 million). Expenses for short-term leases with a term of less than one year totaled €3.9 million in fiscal 2021 (2020: €2.5 million). The amount incurred for leases for assets with an original price of less than €5,000 each amounted to €0.2 million (2020: €0.3 million).

Expenses for variable lease payments amounting to €22.5 million (2020: €16.7 million) were not included in the valuation of lease liabilities.

There were no sale-and-leaseback agreements in the Group.

KUKA Group expects future cash outflows of €2.0 million (2020: €9.1 million) from agreements already concluded but not yet started. For further details on lease liabilities, please refer to note 25.

12. Inventories

in € millions	Dec. 31, 2020	Dec. 31, 2021
Raw materials and supplies	144.1	196.9
Work in process	65.5	86.6
Finished goods	83.0	121.9
Advances paid	15.3	40.2
Inventories	**307.9**	**445.6**

In fiscal 2021, write-downs of €64.6 million (2020: €57.5 million) were recognized, relative to the gross value. This represents an increase of €7.1 million compared with fiscal 2020. Total reversals of impairment losses amounted to €6.1 million in the reporting year, an increase of €5.1 million on the previous year (2020: €1.0 million).

13. Trade receivables

Trade receivables increased by €201.5 million from €395.4 million in 2020 to €596.9 million in 2021. These receivables have a residual term of less than one year.

The following table shows the gross carrying amounts of the trade receivables, classified by the overdue period:

		Gross carrying amount of receivables subject to IFRS 9 at the balance sheet date						
in € millions	Gross carrying amount of credit-impaired receivables	Not overdue	Less than 31 days	31 to 60 days	61 to 90 days	91 to 180 days	More than 180 days	Total receivables
As at Dec. 31, 2020	11.2	314.9	52.6	24.5	5.3	5.9	5.3	408.5
As at Dec. 31, 2021	10.1	514.2	50.9	16.4	9.3	23.2	10.3	624.3

A loss rate per segment was determined depending on the overdue period. Each company in the Group has the option of making additional write-downs based on empirical values. As at the reporting date, this mainly relates to overdue receivables from the China segment.

The development of the impairment losses on trade receivables in total as well as on the credit-impaired receivables and the non-credit-impaired receivables is shown separately and can be found in note 29 d).

As part of working capital management, KUKA transferred trade receivables in the amount of €17.0 million (2020: €25.3 million) to several banks against liquid funds in December 2021. The KUKA Group receivables in question are assigned to the "sell" business model and are therefore measured at fair value through profit or loss.

14. Contract assets and contract liabilities

At the end of fiscal 2021, contract assets of €475.2 million were capitalized (December 31, 2020: €360.9 million), representing an increase of €114.3 million. Contract liabilities rose by €168.5 million in the reporting period, from €316.3 million in 2020 to €484.8 million in the year under review. Depending on whether KUKA Group has performed the service or whether it has been rendered by the customer, the contract is recognized in the balance sheet as either an asset or a contract liability. The services provided by KUKA Group and the payments made by the customer during the contract term may differ. Accordingly, the change in contractual assets and liabilities is mainly attributable to the fulfillment of performance obligations.

Due to the close link in terms of content as well as the clearer form of presentation, this chapter deals with both the asset and liability items. The significant changes to the contract assets and contract liabilities for the year under review and the previous year are shown below:

	Dec. 31, 2020		Dec. 31, 2021	
in € millions	Contract assets	Contract liabilities	Contract assets	Contract liabilities
Sales revenues included in contractual liabilities at the beginning of the period	–	15.4	–	121.8
Increase due to customer payments received	–	67.1	–	595.4
Reclassification from contractual assets to trade receivables	-295.9	–	-333.6	–
Changes due to adjustment of the progress	327.0	0.5	235.4	51.7
Changes due to business combinations	–	7.7	–	–
Impairments	–	–	-3.8	–

As in the previous year, no contract costs were capitalized in the 2021 fiscal year. In accordance with IFRS 9, an impairment loss of −€5.8 million (2020: −€6.6 million) was recognized for contract assets. As a result, the gross carrying amount of contract assets was €481.0 million (2020: €367.5 million). For the reconciliation of the risk provision for expected default risks on contractual assets, please refer to note 29 d).

15. Other receivables and other assets

in € millions	2020	2021
Residual term over 1 year		
Other financial receivables	2.5	1.0
Other non-financial receivables	0.4	0.3
Total	**2.9**	**1.3**
Residual term up to 1 year		
Receivables from tax authorities	30.1	39.8
Other financial receivables	73.1	126.0
Other non-financial receivables	39.2	45.9
Total	**142.4**	**211.7**
Other receivables and other assets	**145.3**	**213.0**

Non-current other assets decreased from €2.9 million in 2020 to €1.3 million in 2021. Current other assets increased from €142.4 million in 2020 to €211.7 million in the year under review. Receivables from tax authorities were up by €9.7 million to €39.8 million in 2021 (2020: €30.1 million) and mainly include sales tax receivables.

Investments in current securities with a term of significantly less than one year are reported under other current financial receivables. These are classified as amortized cost (AC) and impaired using the credit default swaps of the respective bank and the historical default rate of the respective segment. The cumulative impairment loss for this amounted to €0.3 million (2020: €0.1 million). The gross carrying amount amounted to €113.0 million (2020: €44.7 million). Based on the external ratings, KUKA has categorized the issuers of these short-term securities in internal default risk rating class 1. Furthermore, other current financial receivables include derivatives with a positive fair value. Additionally, the category "other non-financial receivables" includes other assets as deferred income in the amount of €27.4 million (2020: €18.0 million).

16. Cash and cash equivalents

KUKA Group maintains bank balances exclusively at financial institutions with an excellent credit rating. Furthermore, funds to be invested are distributed across several financial institutions and the parent company in order to diversify risk.

For further details please refer to note 26.

The impairment loss on cash and cash equivalents was calculated on the basis of expected losses. There was an immaterial default risk of €0.1 million (2020: €0.1 million).

in € millions	Dec. 31, 2020	Dec. 31, 2021
Cash on hand	0.2	0.9
Cash and bank balances	554.4	672.3
Total	**554.6**	**673.2**

Regulatory requirements or local company law provisions in certain countries may restrict the Group's ability to transfer assets to or from other companies within the Group. Cash and cash equivalents are subject to local exchange restrictions in certain countries (for example, China). There, the export of capital from the respective country is generally only possible in compliance with applicable foreign exchange controls. Beyond that, there are no significant restrictions. Cash balances in China totaled €534.2 million in fiscal 2021 (2020: €418.8 million).

Notes to the Group balance sheet: Equity and liabilities

17. Equity

The consolidated statement of changes in equity and the statement of comprehensive income show the changes in equity including those not affecting net income.

For more information on equity see the notes in the management report under "Disclosures in accordance with section 315a sentence 1 of the German Commercial Code (HGB) including accompanying explanations".

18. Subscribed capital

As in the previous year, the company's share capital amounts to €103,416,222.00 (December 31, 2020: €103,416,222.00) and is subdivided into 39,775,470 no-par-value bearer shares outstanding (December 31, 2020: 39,775,470 shares). Each share carries one vote. The no-par-value bearer shares have a theoretical portion of the share capital amounting to €2.60.

19. Capital reserve

The capital reserve applies to KUKA Aktiengesellschaft.

20. Revenue reserves

The revenue reserves include the accumulated retained earnings of KUKA Aktiengesellschaft and its consolidated subsidiaries.

In accordance with the resolution of the Annual General Meeting, a dividend of €0.11 per share for the 2020 fiscal year was distributed in the year under review, corresponding to a total of €4.4 million. In addition, the share-based compensation under the employee share program of Midea Group is included in the revenue reserves. For other changes in revenue reserves resulting from initial recognition of the fair value of interest rate swaps, please refer to note 29 (f).

21. Minority interests

Minority interests relate to Swisslog Healthcare Trading MEA LLC, Dubai (United Arab Emirates), Swisslog Middle East LLC, Dubai (United Arab Emirates), Swisslog Healthcare Shanghai Co., Ltd., Shanghai (China), KUKA Robotics China Co., Ltd., Shanghai (China), KUKA Robotics Guangdong Co., Ltd, Foshan (China) as well as KUKA Robotics Manufacturing China Co., Ltd., Shanghai (China). The adjustment item for minority interests in equity, which also includes foreign currency effects and the pro rata minority earnings, increased by €44.8 million from €280.5 million in 2020 to €325.3 million in 2021.

The table below shows information on non-controlling interests in total assets and total comprehensive income. The amounts are before intra-Group eliminations.

in € millions	2020	2021
Percentage of non-controlling interests	**50%**	**50%**
Non-current assets	483.1	503.2
Current assets	714.1	1,000.7
Non-current liabilities	-4.7	-4.1
Current liabilities	-227.5	-444.8
Net assets	**965.0**	**1,055.0**
Net assets of non-controlling interests	482.5	527.5
Sales revenues	539.7	951.2
Net income	10.7	21.1
Other income	-8.8	57.4
Total comprehensive income	**1.9**	**78.5**
Profit attributable to non-controlling interests	5.3	10.3
Other comprehensive income attributable to non-controlling interests	-4.4	28.7
Cash flow from operating activities	14.2	43.6
Cash flow from investment activities	2.7	-9.9
Cash flow from financing activities	6.3	22.5
Foreign currency effects	-12.0	54.6
Net increase in cash and cash equivalents	**11.3**	**110.8**

22. Other reserves

Other reserves increased by €76.8 million to €43.9 million as at the balance sheet date (2020: –€32.9 million). On the one hand, exchange rate effects of €60.9 million had a positive impact on equity (2020: equity-reducing €40.3 million). On the other hand, there was a reduction in actuarial losses on pension provisions amounting to €16.2 million and in the deferred taxes on these provisions amounting to –€1.9 million. The sale and subsequent derecognition of the investment measured at fair value through other comprehensive income increased other reserves by €1.4 million in fiscal 2021. Changes in fair value resulting from foreign currency developments and recognized in other comprehensive income were reclassified to revenue reserves at the time of disposal.

23. Pension provisions and similar obligations

Appropriate pension provisions were established for liabilities from vested benefits and current benefits paid to vested and former employees of KUKA Group as well as their surviving dependents. Depending on the legal, economic and tax situation in each of the countries concerned, various retirement benefit systems are in place that are as a rule based on employees' length of service and compensation.

Company retirement benefit coverage in the Group is provided through both defined contribution and defined benefit plans.

Defined benefit plans

Defined benefit plans in KUKA Group primarily concern plans in Germany, the United States, Switzerland, the United Kingdom and Sweden. The country-specific characteristics and legal regulations relating to defined benefit plans are presented in the following. Under defined benefit plans, the company incurs an obligation to provide the benefits promised by the plan to current and former employees.

Germany

Obligations in Germany arise from agreements on company pension schemes concluded with various insurance institutions. The prerequisites regarding the type and amount of the entitlement depend on the employee's age and number of years with the company. The benefits include the components old-age pension, disability pension, widow's/widower's pension, death benefits and emergency assistance. New biometric actuarial assumptions (RT 2018G) were published in the 2018 fiscal year, which remain valid for the 2021 fiscal year. The average life expectancy continued to rise in Germany in the last few years, but not by as much as recently. It has not yet been possible to derive any long-term decline in the trend, but this circumstance has been taken into account in the new tables. Research results relating to observed mortality were also taken into account for the first time with a flat-rate discount. These indicate that employees with a higher income also have a greater life expectancy. Finally, the long-term decline in the probability of invalidity in the age range from 58 years onwards was taken into account in the new tables.

USA

The Systems division makes pension payments to its employees after they retire. Employees who entered the worker's union before September 14, 2004 are eligible to participate in the pension plan. The benefits are calculated on the basis of the rate applicable on the date they retire. This rate is composed of the years of service credited to the employee. Eligible employees are also provided with medical care. Owing to their benefit character, the obligations for post-employment medical benefits are also disclosed in this item according to IAS 19. These post-employment benefit provisions represent €0.5 million (2020: €0.5 million) of the total provisions and accruals. The Employee Retirement Income Security Act (ERISA) in the United States provides the legal and regulatory framework for these plans.

The defined benefit plan of the Swisslog division exists for both salaried and wage-earning employees. Both plans are managed by an insurance company and are legally independent. Both are closed to new participants and are financed entirely by the employer. Swisslog Group is able to determine the distribution of the assets. The plans are designed to avoid the necessity to provision for the expenses of additional benefits. However, each individual savings basket bears a fixed percentage of interest (guaranteed minimum return).

Switzerland

The plan is affiliated to a foundation (established in 2019), which is legally independent and exceeds the statutory minimum requirements in Switzerland (Occupational Old Age, Survivors' and Invalidity Pension Provision, BVG). All employees in this are insured for the financial consequences of age, invalidity and death. Contributions are made by the employer and employees. Responsibility for investing the assets is borne by the respective foundation board, which also sets the interest rate on the individual age tranches – subject to the statutory rules. In the event of a deficit for the Swisslog pension fund, various measures can be taken such as a reduced interest rate or additional pension contributions. The level of cover pursuant to BVG exceeds 100% as at the balance sheet date, as was the case at the balance sheet date of the previous year. The Swiss pension plans were valued using the projected unit credit method (PUC) and BVG 2020 generation tables (without risk sharing).

UK

The British defined benefit plan is also independent and has been closed to new participants since 2001. The assets are invested in an insurance fund. The plan is financed by the employer with the employees. Based on the statutory requirements a valuation is undertaken by an actuary every three years. In the event a deficit is calculated, it is necessary to establish a restructuring plan which also sets the future amortization payments to make good the deficit.

Sweden

The Swedish defined benefit plan is legally mandatory and is based on a collective agreement (agreement between the trade union and the Swedish employers). The plan cannot be changed by the company. The plan is available to all employees born before 1979. It covers the financial consequences of age, invalidity and illness. There is a defined contribution plan for those employees born after 1979. The defined benefit plan is financed by the employer. The liability is covered by plan assets in a pension institution administered by an external insurance company. As of 2021, this plan was closed.

Defined contribution plans

For the defined contribution plans, the company pays contributions to a public or private pension insurance carrier. Upon payment of the contributions, the company has no further obligations. Total payments for pensions under defined contribution plans in the amount of €51.6 million compared to €48.7 million in 2020 are disclosed as expenses for the respective years.

Deferred compensation

Pension provisions of €2.5 million (2020: €2.7 million) were recognized for fiscal 2021 for salary components converted into pension commitments by employees under the deferred compensation model. These provisions were netted against the asset values from the surrender values of the reinsurance. This resulted in a balance sheet amount after netting of €0.0 million (2020: €0.0 million).

Disclosures on actuarial assumptions

The amount of pension obligations (defined benefit obligation) was calculated by actuarial methods for which estimates are unavoidable. In addition to assumptions related to life expectancy, this involves assumptions detailed below, which are dependent on the economic environment for each country in question:

Dec. 31, 2021	Germany	Switzerland	UK	Sweden	USA	Other
Demographic assumptions	RT 2018G	BVG 2020 GT	S3PxA CMI 2020	FFFS 2007:31	PRI 2012 with MP 2021	Diverse
Discount factor in %	0.75/0.90	0.35	1.90	1.20	2.55/2.57	0.75 – 7.75
Wage dynamics in %	0.50/2.50	1.50	3.90	2.70	n/a	1.00 – 5.5
Pension dynamics in %	1.00/1.75/2.50	n/a	3.70	2.20	n/a	n/a/3.00
Changes in cost of medical services in %	n/a	n/a	n/a	n/a	6.25	n/a

Dec. 31, 2020	Germany	Switzerland	UK	Sweden	USA	Other
Demographic assumptions	RT 2018G	BVG 2015 GT mod	S3PxA CMI 2019	FFFS 2007:31	PRI 2012 with MP 2020	Diverse
Discount factor in %	0.5	0.15	1.40	0.85	2.20 – 2.25	0.50/6.0
Wage dynamics in %	0.50/2.50	1.25	2.80	2.05	n/a	1.0/5.5
Pension dynamics in %	1.00/1.75/2.50	n/a	3.65	1.55	n/a	–
Changes in cost of medical services in %	n/a	n/a	n/a	n/a	6.50	n/a

The discount factor is determined based on the returns from high-quality, fixed-rate corporate bonds.

Wage dynamics encompass future increases in wages and salaries that are estimated annually by reference to factors such as inflation and economic conditions, among others.

The expected returns are derived from consensus forecasts for the respective asset classes. The forecasts are based on empirical values, economic data, interest forecasts and stock market expectations.

For funded plans, the pension obligations are reduced by an amount equal to the fund assets. If the fund assets exceed the defined benefit obligation, an asset is recognized according to IAS 19 and disclosed under other assets. If the fund assets do not cover the commitment, the net obligation is recognized as a liability under pension provisions.

Increases or decreases in either the present value of the defined benefit obligation or the fair value of the plan assets may give rise to actuarial gains or losses. This may be caused by factors such as changes in actuarial parameters, changes to estimates for the risk profile of the pension obligations and differences between the actual and expected returns on the fund assets.

The sensitivity analysis illustrates the extent to which changes in actuarial assumptions would impact defined benefit obligations recognized as at December 31, 2021:

Sensitivity analysis

Nature and degree of change in actuarial assumptions in € millions		Defined benefit obligation after the change in 2020	Change 20201	Defined benefit obligation after the change in 2021	Change 2021[1]
Increase in the discount rate	by +0.25%	259.2	-9.1	260.8	-11.7
Decrease in the discount rate	by –0.25%	278.6	10.3	284.8	12.3
Pension increase	by +0.25%	274.5	6.2	274.4	1.9
Pension reduction	by –0.25%	265.0	-3.3	270.6	-1.9
Increase in life expectancy	by +1 year	277.6	9.3	278.6	6.1
Decrease in life expectancy	by –1 year	259.3	-9.0	269.3	-3.2
Increase in wages and salaries	by +0.25%	269.0	0.7	278.5	6.0
Decrease in wages and salaries	by –0.25%	267.6	-0.7	266.6	-5.9

[1] The changes in the actuarial assumptions have no linear impact on the calculation of the present value of the defined benefit obligation due to specific effects such as compound interest. Changing multiple assumptions simultaneously does not always correspond to the cumulative effect because there are interdependencies between factors. New calculations of the defined benefit obligation must be made for each case.

Funding status of defined benefit pension obligations

	Germany		Switzerland		UK		Sweden		USA		Other		Total	
in € millions	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021
Present value of pension benefits covered by provisions	76.0	69.2	–	–	–	–	–	–	0.6	0.5	5.5	5.4	82.1	75.1
Present value of pension benefits based on plan assets	2.7	2.5	105.8	112.4	26.6	26.4	21.6	22.9	29.1	30.0	3.1	3.2	188.9	197.4
Defined benefit obligation	78.7	71.7	105.8	112.4	26.6	26.4	21.6	22.9	29.7	30.5	8.6	8.6	271.0	272.5
Fair value of plan assets	2.7	2.5	89.3	103.2	19.5	24.8	14.7	15.4	25.6	28.9	1.6	1.9	153.4	176.7
Net obligation as of Dec. 31	**76.0**	**69.2**	**16.5**	**9.2**	**7.1**	**1.6**	**6.9**	**7.5**	**4.1**	**1.6**	**7.0**	**6.7**	**117.6**	**95.8**

Reconciliation/Development of the defined benefit obligation

The reconciliation of the obligation for key items from the beginning to the end of the fiscal year breaks down as follows:

	Germany		Switzerland		UK		Sweden		USA		Other		Total	
in € millions	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021
Jan. 1	**78.0**	**78.7**	**111.0**	**105.8**	**24.3**	**26.6**	**18.9**	**21.6**	**30.0**	**29.7**	**8.7**	**8.6**	**270.9**	**271.0**
Other changes	–	–	–	–	–	–	–	0.5	–	–	–	–	–	0.5
Current service costs	0.6	0.4	4.5	4.6	0.2	0.2	0.4	–	–	–	0.7	0.8	6.4	6.0
Interest expense (+)/interest income (–)	0.7	0.3	0.3	0.2	0.5	0.4	0.3	0.2	0.8	0.7	0.1	–	2.7	1.8
Actuarial gains (–)/losses (+)	4.1	-3.2	0.7	4.7	3.5	-2.0	1.7	1.6	2.5	-0.5	-0.5	-0.4	12.0	0.2
(of which, changes from experience)	(0.5)	(0.1)	(-0.6)	(3.3)	(0.7)	(0.0)	(-0.3)	(0.6)	(-0.1)	(0.8)	(-0.5)	(-0.4)	(-0.3)	(4.4)
(of which, changes in financial assumptions)	(3.6)	(-3.3)	(1.3)	(1.8)	(2.9)	(-2.0)	(2.0)	(1.0)	(3.2)	(-1.3)	(0.1)	–	(13.1)	(-3.8)
(of which, changes in demographic assumptions)	–	–	–	(-0.4)	(-0.1)	–	–	–	(-0.6)	–	(-0.1)	–	(-0.8)	(-0.4)
Gains (–)/losses (+) on settlement	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Past service cost	–	–	-3.1	-3.4	–	–	–	–	–	–	–	–	-3.1	-3.4
Payments made	-4.7	-4.5	-8.3	-4.1	-0.3	-0.6	-0.5	-0.5	-1.0	-1.9	-0.4	-0.4	-15.2	-12.0
(of which, employee contributions)	–	(0.2)	(2.8)	(2.5)	(0.1)	–	–	–	–	–	–	–	(2.9)	(2.7)
(of which, benefits paid)	(-4.7)	(-4.7)	(-11.1)	(-6.6)	(-0.4)	(-0.6)	(-0.5)	(-0.5)	(-1.0)	(-1.9)	(-0.4)	(-0.4)	(-18.1)	(-14.7)
(of which, payments for settlements)	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Currency translation	–	–	0.7	4.6	-1.6	1.8	0.8	-0.5	-2.6	2.5	–	–	-2.7	8.4
Dec. 31	**78.7**	**71.7**	**105.8**	**112.4**	**26.6**	**26.4**	**21.6**	**22.9**	**29.7**	**30.5**	**8.6**	**8.6**	**271.0**	**272.5**
(of which, funded by provisions)	(76.0)	(69.2)	(–)	(–)	(–)	(–)	(–)	(–)	(0.6)	(0.5)	(5.5)	(5.4)	(82.1)	(75.1)
(of which, based on plan assets)	(2.7)	(2.5)	(105.8)	(112.4)	(26.6)	(26.4)	(21.6)	(22.9)	(29.1)	(30.0)	(3.1)	(3.2)	(188.9)	(197.4)

Current service costs and interest expenses totaling €7.8 million (2020: €9.1 million) compared to benefit payments of €12.0 million during the fiscal year (2020: €15.2 million). The exchange rate effects, mainly relating to the Swiss franc, the US dollar and the British pound, led to an increase in the defined benefit obligation of €8.4 million (2020: €2.7 million decrease). Altogether, the defined benefit obligation grew by €1.5 million compared with the previous year (2021: €272.5 million; 2020: €271.0 million).

Reconciliation/Development of plan assets

The reconciliation of plan assets and asset classes for the 2020 and 2021 fiscal years broke down as follows:

in € millions	2020	2021
Jan. 1	**154.0**	**153.4**
Interest income (+)	1.6	1.2
Other changes	-0.1	-0.1
Actuarial gains (+)/losses (–)	4.7	16.4
Employer contributions	9.0	8.3
Payments	-13.5	-10.1
Currency translation	-2.3	7.6
Fair value of plan assets as of Dec. 31	**153.4**	**176.7**
Cash and cash equivalents	15.9	6.1
Shares	58.5	68.9
Bonds	59.4	27.6
Fixed-interest securities	–	43.7
Real estate	9.8	16.6
Insurance	–	4.3
Other	9.8	9.5
Total*	**153.4**	**176.7**
(of which, active market)	(114.4)	(138.1)
(of which, non-active market)	(39.0)	(38.6)

[1] Breakdown of the data of the active/non-active market:

	2020		2021	
in € millions	Of which, active market	Of which, non-active market	Of which, active market	Of which, non-active market
Cash and cash equivalents	–	15.9	1.4	4.7
Shares	55.0	3.5	65.4	3.5
Bonds	59.4	–	27.6	–
Fixed-interest securities	–	–	43.7	–
Other (real estate, insurance, other)	–	19.6	–	30.4
Total	**114.4**	**39.0**	**138.1**	**38.6**

Investment and risk strategy

The allocation of plan assets to the various asset classes is determined taking potential returns and risks into account. Ratings and forecasts are used as the basis for selecting high-quality stocks and bonds. An optimal portfolio is achieved by ensuring a good balance of risky and risk-free investments. The company has identified the deterioration of the funded status due to the unfavorable development of plan assets and/or defined benefit obligations as a risk. KUKA monitors its financial assets and defined benefit obligations to identify this risk. In the case of the Swisslog Group pension plans the plan assets are managed by an independent entity as a rule. It provides a regular report so that by this means risk management is possible.

Maturity profile of the defined benefit pension plans

An overview of the expected benefit payments over the next ten years is presented below:

in € millions	2020	2021
Not later than one year	10.1	11.5
Later than one year and not later than five years	43.9	50.3
Later than five years and not later than ten years	57.1	63.2

24. Other provisions

in € millions	Status as of Jan. 1, 2021	Exchange rate differences	Consumption	Reversals	Additions	Status as of Dec. 31, 2021
Warranty commitments and risks from pending transactions	75.1	1.6	-49.2	-4.0	57.6	81.1
Provisions for restructuring obligations	31.0	–	-14.6	-13.4	0.3	3.3
Miscellaneous provisions	62.5	2.0	-36.2	-10.2	39.5	57.6
Total	**168.6**	**3.6**	**-100.0**	**-27.6**	**97.4**	**142.0**

Provisions for warranty risks increased to €57.5 million in 2021 (2020: €45.0 million), whereas risks from pending transactions decreased to €23.6 million (2020: €30.1 million). Both are reported within provisions for warranty commitments and risks from pending transactions.

At the end of the fiscal year, provisions for restructuring obligations decreased significantly to €3.3 million (2020: €31.0 million). Last year's provisions in the Robotics, Systems and Corporate Functions segments were largely utilized or reversed.

The other provisions include provisions for costs still to be incurred for orders already invoiced (2021: €12.9 million; 2020: €26.1 million) and litigation risks (2021: €5.4 million; 2020: €2.6 million). The increase in litigation risks is attributable to a pending legal dispute, in which, however, a settlement was reached after the balance sheet date. The provision recognized essentially corresponded to the settlement amount.

The expected remaining term of the other provisions is generally up to one year.

25. Liabilities

Please refer to note 14 for the detailed development of contract liabilities for the year under review and the previous year. Further information on financial liabilities can be found in note 26 and details on other liabilities in note 27.

Trade payables

Trade payables include liabilities to suppliers arising from deliveries received or services used. Supplier invoices that have not yet been received at the time of the financial statements are also reported here. The increase of €280.8 million in the year under review from €353.3 million as at December 31, 2020 to €634.2 million as at December 31, 2021 is mainly attributable to the increase in business volume.

Reverse factoring agreements are concluded to assist certain KUKA Group suppliers with their payment flows. Under such an agreement, a bank acquires the rights to selected trade receivables of the supplier. Following this acquisition, however, the terms of the trade payables remain substantially unchanged. It is therefore appropriate to continue to recognize the corresponding amounts under trade payables in the balance sheet. For the purposes of the cash flow statement, the figures are also reported under operating activities as previously.

Income tax liabilities

Provisions for current taxes are divided into income tax provisions and other tax provisions. They include provisions for all types of taxes for the current year and previous years for which the company itself is liable for tax. The reduction of €15.9 million in income tax liabilities from €43.5 million as at December 31, 2020 to €27.6 million as at December 31, 2021 was related to the assessment of tax matters in the USA.

Lease liabilities

Lease liabilities are recognized at the present value of the expected lease payments. This takes into account fixed and variable payments, residual value guarantees, call option strike prices and prepayment penalties (if early termination is expected). Lease liabilities are measured in subsequent periods using the effective interest method. In this context, interest and redemption payments are treated as separate items. Interest is recognized periodically over the term, irrespective of the actual incidence of payments. Further details on interest payments can be found in note 4. Adjustments due to reassessments of the present value of lease payments or contract modifications are reviewed and made on an ongoing basis, unless the modification must be treated as a separate lease. Such changes to a lease liability also result in an adjustment to the carrying amount of the corresponding right-of-use asset. For further details on right-of-use assets, please refer to note 11.

Lease liabilities increased slightly and amounted to €124.6 million as at December 31, 2021 (December 31, 2020: €121.6 million). Of this amount, €30.2 million (December 31, 2020: €28.7 million) was accounted for by current lease liabilities and €94.4 million (December 31, 2020: €92.9 million) by non-current lease liabilities.

26. Financial liabilities incl. inter-company loan

The existing financial liabilities were mainly the promissory note loans (Schuldschein) issued in 2015 and 2018 and the inter-company loan.

The current and non-current financial liabilities as at December 31, 2021 and December 31, 2020 are presented below:

in € millions	Dec. 31, 2020	Change	Dec. 31, 2021
Non-current financial liabilities incl. accounts payable to affiliated companies	**370.0**	**-176.9**	**193.1**
EUR promissory note loan (Schuldschein)	107.4	-107.4	–
USD promissory note loans (Schuldschein)	113.8	-69.7	44.1
Inter-company loan	148.4	0.3	148.7
Other	0.4	-0.1	0.3
Current financial liabilities	**154.6**	**177.4**	**332.0**
EUR promissory note loan (Schuldschein)	–	107.4	107.4
USD promissory note loans (Schuldschein)	–	79.5	79.5
Liabilities due to banks	154.6	-9.5	145.1
Total financial liabilities	**524.6**	**0.5**	**525.1**

EUR promissory note loan (Schuldschein)

KUKA AG issued an unsecured promissory note loan (Schuldschein) with a total volume of €250.0 million on October 9, 2015. After deducting the transaction costs, KUKA received a total of €248.9 million from this issue.

The total volume was placed in two separate maturity tranches. Tranche 1 had a volume of €142.5 million with an initial term to maturity of five years. It was due on October 9, 2020 and was repaid as contractually agreed. Tranche 2 has a volume of €107.5 million with an initial term to maturity of seven years (due in October 2022). Interest payments are made at yearly intervals on October 9. Interest of €0.3 million (2020: €0.4 million) was accrued as at the balance sheet date.

USD promissory note loans (Schuldschein)

In order to finance the construction of a new manufacturing facility under the terms of a pay-on-production contract of KUKA Toledo Production Operations LLC, Toledo, Ohio, USA (KTPO), this company had issued USD promissory note loans (Schuldschein) with a total volume of USD 150.0 million in three maturity tranches on August 10 and September 10, 2018, underwritten by KUKA AG: tranche 1 with a volume of USD 10.0 million had a term to maturity of two years and was repaid at maturity on August 10, 2020. Tranche 2 with a volume of USD 90.0 million has an original term to maturity of 3.5 years (maturing February 2022) and tranche 3 with a volume of USD 50.0 million has an original term to maturity of five years (maturing August 2023).

The interest rate on the two tranches still outstanding is variable and based on the 3-month USD LIBOR plus a maturity-dependent margin in each case. Interest payments are made quarterly.

Inter-company loan

In December 2019, KUKA AG concluded an inter-company loan agreement covering a loan volume of €150.0 million with Midea International Corporation Company Limited, Hong Kong, a wholly-owned subsidiary of Midea Group. At the same time, Midea International Corporation Company Limited declared in a subordination agreement with the syndicate banks of KUKA AG's syndicated loan agreement that its receivables arising from this loan agreement are deeply subordinated. KUKA AG received the loan amount on December 20, 2019. Repayment is due on June 20, 2025, corresponding to a term of five and a half years. The inter-company loan bears interest at 0.85% p. a.; interest payments are made every six months.

Syndicated loan for KUKA Aktiengesellschaft

On February 1, 2018, KUKA AG concluded a syndicated loan agreement with a consortium of banks for a volume of €520.0 million. The agreement includes a surety and guarantee line (guaranteed credit line) in the amount of €260.0 million and a working capital line (cash line), which can also be used for guarantees, likewise in the amount of €260.0 million.

The initial term of the loan agreement was five years (until February 1, 2023) and contained two contractually agreed one-year extension options (5+1+1). With the approval of all banks for the first agreed extension option in 2018 and the second one in 2019, the term was extended in 2018 and 2019 by one year in each case. The loan agreement now terminates in February 2025.

The syndicated loan agreement was concluded on an unsecured basis. The only covenants agreed were the customary equal treatment clauses and negative pledges as well as two financial covenants relating to limit values for the financial KPIs leverage (net financial debt/EBITDA) and interest coverage (EBITDA/net interest expense). As at December 31, 2020, KUKA AG had drawn on the guarantee and working capital facilities under the syndicated loan agreement. Uncertainties arose in the course of fiscal 2021 with regard to the calculation of the financial covenants. In September 2021, at KUKA AG's request, the lending banks therefore entered into a clarifying agreement with KUKA AG in which they waived, with retroactive effect as of December 31, 2020, any rights arising from potential non-compliance with these financial covenants due to the calculation uncertainties. Throughout the 2021 fiscal year, the covenants in the credit agreement were met at each review date.

As at the balance sheet date the utilization of the guarantee and cash credit facilities from the syndicated loan agreement of KUKA AG amounted to a total of €313.4 million (2020: €329.3 million).

Guarantee facility lines from banks and surety companies

The guarantee facility lines pledged by banks and surety companies outside the syndicated loan agreement total €170.4 million as at December 31, 2021 (2020: €170.3 million) and can be utilized up to a total volume of €150.0 million in accordance with the provisions of the syndicated loan agreement. At the end of the reporting year, the company had utilized €76.0 million (2020: €52.1 million). None of these bilaterally agreed guarantee facility lines contains a change-of-control clause.

27. Other liabilities

The other taxes included in the other current liabilities primarily consist of sales, wage and church tax. Personnel liabilities are reported within the other liabilities and mainly include obligations arising from vacation entitlements (2021: €22.6 million; 2020: €19.5 million), flex-time credits (2021: €19.4 million; 2020: €18.1 million), variable compensation components (2021: €59.2 million; 2020: €37.0 million) and pre-retirement (“Altersteilzeit”) (2021: €15.1 million; 2020: €15.8 million). Pre-retirement obligations were reduced by the fair value of the corresponding fund assets (2021: €16.9 million; 2020: €18.2 million). The present value of entitlements from pre-retirement obligations (DBO) before offsetting was €32.1 million (2020: €34.0 million). This item also includes special payments, inventor’s compensation, long-service awards and contributions to the employers’ liability insurance association.

A small portion of the variable compensation components is accounted for by share-based compensation components which are settled in cash. For details on the structure of these compensation agreements, please refer to the section on accounting principles.

Furthermore, other non-current liabilities also include derivative financial instruments with a negative fair value of €2.7 million in the year under review (2020: €0.1 million). The share of derivative financial instruments with negative fair values in current other liabilities amounted to €16.7 million as at December 31, 2021 (2020: €3.8 million).

The carrying amounts of the other liabilities are presented below:

in € millions	Remaining maturity		Dec. 31, 2020	Remaining maturity		Dec. 31, 2021
	Up to one year	More than one year		Up to one year	More than one year	
(of which, for other taxes)	(57.8)	–	(57.8)	(67.3)	–	(67.3)
(of which, for social security payments)	(7.7)	–	(7.7)	(7.9)	–	(7.9)
(of which, liabilities relating to personnel)	(109.2)	(16.6)	(125.8)	(140.8)	(16.6)	(157.4)
(of which, derivatives with a negative fair value)	(3.8)	(0.1)	(3.9)	(16.7)	(2.7)	(19.4)
(of which, other)	(34.6)	(3.3)	(37.9)	(43.9)	(3.0)	(46.9)
Other liabilities	**213.1**	**20.0**	**233.1**	**276.6**	**22.3**	**298.9**

28. Assets and liabilities held for sale

As at December 31, 2021, there were no plans to divest any (sub) divisions, meaning that there are no circumstances to report in accordance with IFRS 5.

29. Financial risk management and financial derivatives

a) Principles of risk management

As part of its general business activities, KUKA Group is exposed to various financial risks, in particular from movements in exchange rates and interest rates as well as counterparty risk and liquidity risk. The purpose of financial risk management is to identify, assess and manage these risks. The aim is to limit the potential negative impact on the financial position.

KUKA hedges the risks from operations, especially currency risks, and risks from financial transactions with financial derivatives. Transactions in financial derivatives are only entered into for hedging purposes, in other words solely with reference to and for hedging underlying transactions. Whenever possible, KUKA AG is the central hedging partner of the Group companies, and it in turn hedges the Group’s risks by concluding appropriate hedging transactions with banks. To reduce the credit risk, hedging transactions are only concluded with financial institutions with an excellent credit rating.

The fundamentals of financial policy and risk management are established by the Management Board and implemented by Group Treasury in close cooperation with Group companies. The Management Board is informed on a regular basis of the current risk positions and safeguards.

For further details please refer to the opportunity and risk report.

b) Currency risk

Risks arising from fluctuations in exchange rates that may affect the Group’s cash flow – for example from investments, financing and already fixed or planned incoming and outgoing operational payments in foreign currencies – are hedged as they arise or become known through the use of derivative financial instruments with banks. Hedging may also cover future planned transactions such as planned purchases of goods in foreign currencies.

These hedging activities ensured that KUKA was not exposed to any significant exchange rate risks from its operating and financing activities as at the balance sheet date.

Currency risk as defined by IFRS 7 arises on account of financial instruments that are denominated in a currency other than the functional currency and are of a monetary nature. Currency translation risks – measurement risks associated with subsidiaries’ financial statements in foreign currencies – are generally not hedged, but are continuously monitored.

Differences resulting from the translation of financial statements into the Group's presentation currency are not taken into consideration.

For the presentation of market risks, IFRS 7 requires sensitivity analyses that show the effects of hypothetical changes of relevant risk variables, such as exchange rates, on profit or loss and shareholders' equity. The periodic effects are determined by relating the hypothetical changes in the risk variables to the balance of financial instruments at the reporting date. It is assumed that the balance at the reporting date is representative for the year as a whole.

Currency sensitivity analyses are based on the following assumptions:

Major non-derivative monetary financial instruments (liquid assets, receivables, liabilities) are either directly denominated in the functional currency or are transferred as far as possible into the functional currency through the use of derivatives.

Major interest income and interest expense from financial instruments are also either recorded directly in the functional currency or transferred into the functional currency by using derivatives. For this reason, there can be no material effect on the variables considered in this connection. Despite their minor effects, primary and derivative instruments were included in the determination of currency sensitivities.

The currency pairs that are material for KUKA were considered when calculating currency sensitivities. This involved applying a hypothetical upward or downward revaluation of the national currency concerned against the relevant foreign currency and presenting the hypothetical impact on earnings.

in € millions	Dec. 31, 2020	Dec. 31, 2021
EUR/USD		
EUR +10%	2.6	6.7
EUR –10%	-3.2	-8.2
EUR/JPY		
EUR +10%	-1.7	-0.9
EUR –10%	2.0	1.1
EUR/CNY		
EUR +10%	-1.6	-2.9
EUR –10%	2.0	3.5
EUR/HUF		
EUR +10%	-1.1	-1.1
EUR –10%	1.4	1.3
EUR/CHF		
EUR +10%	5.1	14.6
EUR –10%	-6.3	-17.9
EUR/SEK		
EUR +10%	-1.5	3.1
EUR –10%	1.8	-3.7
Others: EUR/NOK; CNY/JPY; CHF/SEK; USD/SEK		
Base currency +10%	-2.0	-0.8
Base currency –10%	2.6	1.1

Assumptions concerning the future cannot be derived from this presentation of currency effects.

c) Interest rate risk

Risks from interest rate changes at KUKA are essentially the result of the USD promissory note loans (Schuldschein) issued in 2018 and linked to a variable interest rate. These variable future interest payments were converted for the major part of the issue volume by concluding corresponding interest rate hedges in fixed interest rate agreements. Interest rate risks from floating-rate and fixed-interest short-term cash investments are not hedged.

Interest rate risks are presented by way of sensitivity analyses in accordance with IFRS 7. These show the effects of changes in market interest rates on interest payments, interest income and expense, other income components and shareholders' equity. Interest rate sensitivity analyses are based on the following assumptions:

Changes in the market interest rates of non-derivative financial instruments with fixed interest rates only affect income if these are measured at their fair value. As such, all financial instruments with fixed interest rates that are carried at amortized cost (for example, the EUR promissory note loan (Schuldschein)) are not subject to interest rate risk as defined in IFRS 7.

Changes in market interest rates affect the interest income or expense of non-derivative variable-interest financial instruments, the interest payments of which are not designated as hedged items of cash flow hedges against interest rate risks.

An increase in market interest rates by 100 basis points across all currencies would have a positive effect on earnings of +€5.6 million based on positions at December 31, 2021 (2020: +€3.7 million). A decrease in market interest rates by 100 basis points across all currencies would have a negative effect on earnings of –€5.0 million (2020: –€3.0 million). The assumption was made for financial investments at the balance sheet date that the lower limit of the relevant interest rate amounts to -50 basis points. The hypothetical impact on earnings as at the balance sheet date results exclusively from short-term cash investments of €673.2 million (2020: €554.6 million), short-term borrowings of €145.1 million (2020: €154.6 million), and the floating-rate unhedged tranches and interest rate swaps for the floating-rate tranches of the USD promissory note loans (Schuldschein).

The IBOR transition to so-called risk free rates (RFRs) was already completed in KUKA Group in 2021. In the process, the yield curves affected by the IBOR reform were converted to RFRs. The yield curves are imported daily into the treasury management system (ITS) and used for the mark-to-market valuation of forward exchange transactions. All other primary and derivative financial instruments were not affected by the IBOR transition as at December 31, 2021.

The USD promissory loans with the two tranches still outstanding has a variable interest rate and is based on the 3-month USD LIBOR plus a maturity-dependent margin in each case. Interest payments are made quarterly. The last interest rate fixing will take place in May 2023. The USD LIBOR is still available until June 2023 and can therefore be used for the final fixing. The interest rate fixing dates from the payer interest rate swaps correspond exactly to the fixing dates from the USD promissory note loans (Schuldschein). The IBOR transition therefore has no impact on the two instruments.

d) Credit risk

KUKA Group is exposed to credit risks from its operating activities and certain financing activities. A default can occur if individual business partners do not meet their contractual obligations and KUKA Group thus suffers a financial loss.

At the level of operations, the outstanding debts are continuously monitored in each area locally. There are regular business relations with major customers at multiple KUKA Group companies. The associated credit risks are subject to separate quarterly credit rating monitoring as part of the risk management system at the Group's Management Board level for early detection of an accumulation of individual risks. Added to these measures are comprehensive routine checks implemented at segment level as early as the order initiation process (submission of offers and acceptance of orders) to verify the credit rating of potential business partners. Where necessary, appropriate allowance is made for default risks relating to potentially credit-impaired receivables.

The maximum exposure to credit risk is represented by the carrying amounts of the financial assets that are carried in the balance sheet (including derivatives with positive market values). No agreements reducing the maximum exposure to credit risk had been concluded as of the reporting date.

The following table shows the impairment losses on trade receivables, contract assets, lease receivables, other assets (including securities and loans) and bank balances:

	Trade receivables			Contract assets	Lease receivables	Other assets
in € millions	Credit-impaired	Not credit-impaired	Total			
Impairment losses as of Jan. 1, 2020	**11.2**	**1.3**	**12.5**	**5.9**	**0.3**	**0.3**
Change in scope of consolidation	–	–	–	-0.2	–	–
Additions	2.9	1.4	4.3	1.9	1.0	–
Consumption and foreign currency effects	-0.5	-0.2	-0.7	0.2	-0.1	-0.2
Reversals	-2.4	-0.6	-3.0	-1.0	–	–
Impairment losses as of Dec. 31, 2020/Jan. 1, 2021	**11.2**	**1.9**	**13.1**	**6.6**	**1.2**	**0.1**
Change in scope of consolidation	–	–	–	–	–	–
Additions	0.9	22.5	23.4	0.5	–	0.2
Consumption and foreign currency effects	-0.5	–	-0.5	0.6	–	0.1
Reversals	-1.5	-7.1	-8.5	-1.6	–	-0.3
Impairment losses as of Dec. 31, 2021	**10.1**	**17.3**	**27.5**	**6.1**	**1.2**	**0.1**

The increase in impairment losses on non-credit-impaired receivables was mainly due to higher risk provisions for expected bad debts as a result of the economic crisis.

e) Liquidity risk

One of KUKA AG's primary tasks is to coordinate and control the Group's financing requirements and to ensure the financial independence of KUKA and its ability to pay on time. With this goal in mind, KUKA Group optimizes the Group's financing and limits its financial risks. The uniform treasury management and reporting system employed throughout the Group is used to identify and illustrate these risks. In addition, the Group's overall liquidity risk is reduced by closely monitoring Group companies and their control of payment flows.

In order to ensure the payment capability at all times and the financial flexibility of KUKA Group, KUKA Aktiengesellschaft keeps a liquidity reserve in the form of credit lines and cash funds. For this purpose, KUKA has, among other measures, placed promissory note loans (Schuldschein), taken out an inter-company loan and agreed a credit line with the shareholder, concluded a syndicated loan agreement with a consortium of banks and arranged for surety companies and banks to commit guarantee facility lines. The funding and guarantee requirements for business operations are ensured to a large extent internally by transferring cash funds (inter-company loans) and providing guarantees from the banks and the Group itself.

The following figures show the commitments for undiscounted interest and redemption repayments for the financial instruments subsumed under IFRS 7:

Dec. 31, 2021 in € millions	Cash flows 2022	Cash flows 2023	Cash flows 2024 – 2026	Cash flows 2027 et seq.
Financial liabilities	189.1	44.6	–	–
Accounts payable to affiliated companies	1.3	1.3	151.9	–
FX derivatives (gross settlement)	623.3	33.2	13.8	–
Interest rate derivatives (net settlement)	1.3	1.0		
Trade payables	634.2	–	–	–
Liabilities from leases	30.2	36.2	66.8	–
Other liabilities	224.4	16.6	2.9	–

Dec. 31, 2020 in € millions	Cash flows 2021	Cash flows 2022	Cash flows 2023 – 2025	Cash flows 2026 et seq.
Financial liabilities	157.6	183.2	41.1	–
Accounts payable to affiliated companies	1.3	1.3	153.2	–
FX derivatives (gross settlement)	204.9	1.0	0.6	–
Interest rate derivatives (net settlement)	2.1	1.3	1.0	–
Trade payables	353.4	–	–	–
Liabilities from leases	33.6	25.0	51.3	27.8
Other liabilities	188.2	16.6	3.4	–

All financial instruments are included which were held at the balance sheet dates and for which payments have already been contractually agreed. Foreign currency amounts are expressed at the spot rate on the key date. The variable interest payments from the financial instruments were determined on the basis of the interest rates last fixed prior to December 31, 2021. Financial liabilities repayable at any time are always allocated to the earliest period.

f) Hedges

Hedges are used by KUKA Group exclusively in the form of forward exchange transactions and interest rate swaps to secure existing balance sheet items as well as to hedge future payment flows. These are exclusively for the purpose of hedging currency and interest rate risks. The fair value of the interest rate swaps entered into to hedge the interest rate risk arising from the floating-rate tranches of the USD promissory note loans (Schuldschein) was recognized in the balance sheet for the first time at the beginning of 2021 and offset against revenue reserves. If these interest rate swaps had already been recognized in previous years, there would have been a negative impact of €4.9 million on the financial result and financial liabilities. The ongoing changes in the fair value of the interest rate swaps were recognized in the financial result. For further details on the financial result, please refer to note 4.

30. Other disclosures on financial instruments

KUKA Group classifies its financial instruments at amortized cost, at fair value through profit or loss and at fair value through other comprehensive income. The following table shows the total carrying amounts of financial assets and liabilities for the year under review and the previous year:

Carrying amounts and fair values by measurement categories for 2021

The carrying amounts and the fair values according to IFRS 9 are presented in the following table:

Assets

in € millions	Carrying amount as at Dec. 31, 2021	Balance sheet valuation acc. to IFRS 9			Balance sheet valuation acc. to IFRS 16	Not within the scope of IFRS 7	Fair value as at Dec. 31, 2021	Assessment hierarchy level
		Amortized cost	At fair value through other comprehensive income	At fair value through profit or loss				
Financial investments	5.0	–	–	5.0	–	–	5.0	
of which, participations	(5.0)	–	–	(5.0)	–	–	(5.0)	3
Finance lease receivables – non-current	100.7	–	–	–	100.7	–	61.1	2
Other receivables and other assets – non-current	1.3	0.6	–	0.4	–	0.3	0.4	
of which, deposits	(0.6)	(0.6)	–	–	–	–	n/a*	
of which, others	(0.7)	–	–	(0.4)	–	(0.3)	(0.4)	2
Trade receivables	596.9	525.1	–	71.8	–	–	71.8	2
Finance lease receivables – current	32.9	–	–	–	32.9	–	n/a**	
Other receivables and other assets – current	211.7	123.4	–	2.6	–	85.7	2.6	
of which, derivatives	(2.2)	–	–	(2.2)	–	–	(2.2)	2
of which, securities	(112.7)	(112.7)	–	–	–	–	n/a*	
of which, deposits	(10.1)	(10.1)	–	–	–	–	n/a*	
of which, loans	(0.6)	(0.6)	–	–	–	–	n/a*	
of which, others	(86.1)	–	–	(0.4)	–	(85.7)	(0.4)	3
Cash and cash equivalents	673.2	673.2	–	–	–	–		
Total financial instruments (assets)	**1,621.7**	**1,322.3**	**–**	**79.8**	**133.6**	**86.0**		

Liabilities

in € millions	Carrying amount as at Dec. 31, 2021	Balance sheet valuation acc. to IFRS 9			Balance sheet valuation acc. to IFRS 16	Not within the scope of IFRS 7	Fair value as at Dec. 31, 2021	Assessment hierarchy level
		Amortized cost	At fair value through other comprehensive income	At fair value through profit or loss				
Financial liabilities – non-current	44.4	44.4	–	–	–	–	42.7	2
Accounts payable to affiliated companies – non-current	148.7	148.7	–	–	–	–	146.8	2
Finance lease liabilities – non-current	94.4	–	–	–	94.4	–	n/a**	
Other liabilities – non-current	22.3	–	–	2.7	–	19.6	2.7	
of which, derivatives	(2.7)	–	–	(2.7)	–	–	(2.7)	2
of which, others	(19.6)	–	–	–	–	(19.6)	n/a	
Financial liabilities – current	332.0	332.0	–	–	–	–	n/a*	
Trade payables	634.2	634.2	–	–	–	–	n/a *	
Finance lease liabilities – current	30.2	–	–	–	30.2	–	n/a**	
Other liabilities – current	276.6	65.5	–	16.7	–	194.4	16.7	
of which, derivatives	(16.7)	–	–	(16.7)	–	–	(16.7)	2
of which, others	(259.9)	(65.5)	–	–	–	(194.4)	n/a*	
Total financial instruments (liabilities)	**1,582.8**	**1,224.8**	**–**	**19.4**	**124.6**	**214.0**		

n/a = no disclosure required, as not in scope of IFRS 7/13
n/a* = the carrying amount approximates the fair value
n/a** = waiver of fair value disclosure in accordance with IFRS 7.29(d)

Carrying amounts and fair values by measurement categories for 2020

The carrying amounts and the fair values according to IFRS 9 are presented in the following table:

Assets

in € millions	Carrying amount as at Dec. 31, 2020	Balance sheet valuation acc. to IFRS 9			Balance sheet valuation acc. to IFRS 16	Not within the scope of IFRS 7	Fair value as at Dec. 31, 2021	Assessment hierarchy level
		Amortized cost	At fair value through other comprehensive income	At fair value through profit or loss				
Financial investments	17.1	–	2.7	14.4	–	–	17.1	
of which, participations	(17.1)	–	(2.7)	(14.4)	–	–	(17.1)	3
Finance lease receivables – non-current	119.6	–	–	–	119.6	–	89.7	2
Other receivables and other assets – non-current	2.9	1.0	–	1.5	–	0.4	1.5	
of which, derivatives	(0.8)	–	–	(0.8)	–	–	(0.8)	2
of which, deposits	(0.7)	(0.7)	–	–	–	–	n/a*	
of which, others	(1.4)	(0.3)	–	(0.7)	–	(0.4)	(0.7)	2
Trade receivables	395.4	393.2	–	2.2	–	–	2.2	
Finance lease receivables – current	28.4	–	–	–	28.4	–	n/a**	
Other receivables and other assets – current	142.4	62.8	–	10.2	–	69.4	10.2	
of which, derivatives	(6.7)	–	–	(6.7)	–	–	(6.7)	2
of which, securities	(44.7)	(44.7)	–	–	–	–	n/a*	
of which, deposits	(16.7)	(16.7)	–	–	–	–	n/a*	
of which, loans	(1.4)	(1.4)	–	–	–	–	n/a*	
of which, others	(72.9)	–	–	(3.5)	–	(69.4)	(3.5)	3
Cash and cash equivalents	554.6	554.6	–	–	–	–		
Total carrying amounts of financial instruments (assets)	**1,260.4**	**1,011.7**	**2.7**	**28.3**	**148.0**	**69.8**		

Liabilities

in € millions	Carrying amount as at Dec. 31, 2020	Balance sheet valuation acc. to IFRS 9 – Amortized cost	Balance sheet valuation acc. to IFRS 9 – At fair value through other comprehensive income	Balance sheet valuation acc. to IFRS 9 – At fair value through profit or loss	Balance sheet valuation acc. to IFRS 16	Not within the scope of IFRS 7	Fair value as at Dec. 31, 2021	Assessment hierarchy level
Financial liabilities – non-current	221.6	221.6	–	–	–	–	225.9	2
Accounts payable to affiliated companies – non-current	148.4	148.4	–	–	–	–	154.2	2
Finance lease liabilities – non-current	92.9	–	–	–	92.9	–	n/a*	
Other liabilities – non-current	20.0	–	–	0.1	–	19.9	0.1	
of which, derivatives	(0.1)	–	–	(0.1)	–	–	(0.1)	2
of which, others	(19.9)	–	–	–	–	(19.9)	n/a	
Financial liabilities – current	154.6	154.6	–	–	–	–	n/a*	
Trade payables	353.3	353.3	–	–	–	–	n/a*	
Finance lease liabilities – current	28.7	–	–	–	28.7	–	n/a**	
Other liabilities – current	213.1	40.3	–	3.8	–	169.0	3.8	
of which, derivatives	(3.8)	–	–	(3.8)	–	–	(3.8)	2
of which, others	(209.3)	(40.3)	–	–	–	(169.0)	n/a*	
Total financial instruments (liabilities)	**1,232.6**	**918.2**	**–**	**3.9**	**121.6**	**188.9**		

n/a = no disclosure required, as not in scope of IFRS 7/13
n/a* = the carrying amount approximates the fair value
n/a** = waiver of fair value disclosure in accordance with IFRS 7.29(d)

Fair value is defined as the price that would be paid by independent market participants in an arm's length transaction at the evaluation date if an asset were sold or a liability transferred. In accordance with IFRS 13, assets and liabilities are to be attributed to one of the three levels of the fair value hierarchy. The individual levels of the fair value hierarchy are defined as follows on the basis of the input factors:

Level 1
Level 1 inputs are (unadjusted) quoted prices in active markets for identical assets or liabilities that are accessible to the entity at the measurement date.

Level 2
Level 2 inputs are quoted market prices other than those in level 1 that are either directly or indirectly observable for the asset or liability.

Level 3
Level 3 inputs are inputs that are unobservable for the asset or liability.

With the exception of financial investments and lease receivables, the financial assets have short remaining terms. For financial investments measured at fair value through profit or loss (FVtPL) as well as at fair value through other comprehensive income (FVOCI), cost is the best estimate of fair value. Non-current derivatives are another exception. These are recognized at fair value as at the balance sheet date. All financial investments are allocated to fair value hierarchy level 3.

Shares from equity holdings not traded on the market are assigned to level 3. Compared with the previous year, there was a decrease due to the sale of the shares in Servotronix Motion Control Ltd. For further details, please refer to note 9.

Financial liabilities carried at amortized cost using the effective interest method are mainly liabilities from promissory note loans (Schuldschein). All non-current financial liabilities are allocated to fair value hierarchy level 3. They are calculated as a present value by discounting future cash flows using term-specific, risk-adjusted market interest rates. No fair value needs to be determined for the lease liabilities.

The derivative financial instruments recognized at the balance sheet date are forward exchange transactions or interest rate derivatives used to hedge exchange rate risks or interest rate risks, respectively. They are recognized in the balance sheet at the market value determined with the aid of standard financial mathematical techniques, using current market parameters such as exchange rates and counterparty credit ratings (mark-to-market method) or quoted prices. They are allocated to fair value hierarchy level 2.

No reclassifications between the levels were made either in the year under review or in the previous year.

Gains and losses from financial instruments

Net results and total interest results, broken down by measurement category, are thus represented as follows:

Net gains/losses and total interest results by IFRS 9 measurement categories for the 2021 fiscal year

in € millions	Total results	Total interest income	Total interest expenses
Financial Assets Measured at Amortized Cost (AC)	-5.9	15.8	–
Financial Assets and Liabilities Measured at Fair Value Through Profit and Loss (FVtPL)	-12.7	n/a	n/a
Financial Assets Measured at Fair Value through Other Comprehensive Income (FVOCI)	1.4	n/a	n/a
Financial Liabilities Measured at Amortized Cost (FLAC)	2.8	–	-10.4
Total	**-14.4**	**15.8**	**-10.4**

Net gains/losses and total interest results by IFRS 9 measurement categories for the 2020 fiscal year

in € millions	Total results	Total interest income	Total interest expenses
Financial Assets Measured at Amortized Cost (AC)	-0.9	13.3	–
Financial Assets and Liabilities Measured at Fair Value Through Profit and Loss (FVtPL)	-17.2	n/a	n/a
Financial Assets Measured at Fair Value through Other Comprehensive Income (FVOCI)	-1.2	n/a	n/a
Financial Liabilities Measured at Amortized Cost (FLAC)	5.6	–	-7.8
Total	**-13.7**	**13.3**	**-7.8**

The net gains and losses in the Amortized Cost (AC) category comprise foreign exchange effects and the results of additions and releases of valuation allowances. Total interest income and expenses include interest income on bank balances, which developed favorably for KUKA Group in fiscal 2021 compared to fiscal 2020.

The result of the Fair Value through Profit and Loss (FVtPL) category is composed of fair value changes. The fair value changes result, among other things, from changes in interest rates and exchange rates. In addition to foreign currency effects, losses from the disposal of financial assets and gains from changes in the fair value of financial investments are also included here.

The Fair Value through Other Comprehensive Income (FVOCI) category includes fair value changes for the shares in Servotronix Motion Ltd.

As in the previous year, the net gains and losses in the Financial Liabilities measured at Amortized Cost (FLAC) category comprise the net profit originating from the release of liabilities. The total interest expense mainly relates to interest expense for banks in fiscal 2021, as it also did in fiscal 2020.

31. Contingent liabilities and other financial commitments

At the end of the fiscal year, the Group had no obligations arising from guarantees (2021: €0.0 million; 2020: €1.4 million). Obligations from warranty agreements amounted to €1.6 million in the year under review (2020: €1.3 million).

in € millions	2020	2021
Purchase commitments	40.9	40.9
Rent/lease liabilities	25.2	10.6
Other financial commitments	13.2	16.2
Total	**79.3**	**67.7**

Purchase commitments, which are mainly attributable to a customer project at a subsidiary in the Swisslog business segment, remained at the prior-year level. In the year under review, obligations arising from rental and lease agreements decreased to €10.6 million (2020: €25.2 million).

32. Management of capital

The primary objectives of KUKA Group's capital management are to increase shareholder value and to support ongoing business operations by providing adequate financial resources.

To achieve the objectives, it is necessary to have appropriate and sufficient equity (equity ratio), liquidity (net liquidity) and an adequate return on capital employed (ROCE). These indicators are shown below:

		2020	2021
Equity	€ millions	1,203.7	1,354.6
/Total equity	€ millions	3,116.5	3,709.1
Equity ratio	**%**	**38.6**	**36.5**
EBIT	€ millions	-113.2	61.8
/Capital employed	€ millions	1,321.1	1,245.5
ROCE	**%**	**-8.6**	**5.0**
Cash and cash equivalents	€ millions	554.6	673.2
Non-current financial liabilities incl. accounts payable to affiliated companies	€ millions	-370.0	-193.1
Current financial liabilities	€ millions	-154.6	-332.0
Net liquidity	**€ millions**	**30.0**	**148.1**

As a result of the expansion of the balance sheet total, the equity ratio fell from 38.6% at the end of fiscal 2020 to 36.5% at the end of fiscal 2021. The current earnings had a positive impact on equity. Similarly, net liquidity increased from €30.0 million in 2020 to €148.1 million in 2021. Cash and cash equivalents increased by €118.6 million, while non-current and current financial liabilities remained at the prior-year level on a net basis. Due to the positive EBIT, ROCE was 5.0% as against -8.6% in the previous year.

Notes to the Group cash flow statement

In accordance with IAS 7, KUKA Group presents the development of cash flows in the cash flow statement separately for incoming and outgoing funds from operating, investing and financing activities. The cash flow from operating activities is determined using the indirect method.

Cash and cash equivalents in the cash flow statement include all cash and cash equivalents disclosed in the balance sheet, namely cash on hand, checks and cash with banks provided they are available within three months.

The starting point for determining the cash flow from operating activities is earnings after taxes. The changes to the balance sheet items associated with operating activities are adjusted for currency translation effects and changes to the scope of consolidation.

Income taxes include current tax expenses. The change in deferred taxes is included in other non-cash expenses or income.

Detailed information can be found in the management report under "Financial position" and in the Group cash flow statement.

Presented below is the reconciliation of the liabilities from financing activities for fiscal years 2020 and 2021:

in € millions	Financial liabilities	Accounts payable to affiliated companies	Lease liabilities	Total
Status as of Jan. 1, 2020	**384.6**	**150.0**	**138.3**	**672.9**
Changes affecting payments	-10.2	-1.3	-34.1	-45.6
New leases	–	–	28.4	28.4
Exchange rate changes	-10.6	–	-6.2	-16.8
Other changes	12.4	-0.3	-4.8	7.3
Status as of Dec. 31, 2020/Jan. 1, 2021	**376.2**	**148.4**	**121.6**	**646.2**
Changes affecting payments	-6.8	-1.3	-34.6	-42.7
New leases	–	–	35.1	35.1
Exchange rate changes	4.2	–	–	4.2
Other changes	2.8	1.6	2.5	6.9
Status as of Dec. 31, 2021	**376.4**	**148.7**	**124.6**	**649.7**

The differences between the cash flows and the cash outflow from financing activities are mainly due to interest payments, receipts from grants received and dividend payments. The interest payments reported in the cash flow statement also include payments that do not relate to liabilities from financing activities.

Notes to the Group segment reporting

The data presented in the annual financial statements have been segmented by business field and region. The structure follows internal reporting (management approach). The segmentation is intended to create transparency with regard to the earning power and the prospects, as well as the risks and rewards for the various business fields within the Group.

Segment reporting is based on the structure of KUKA Group. The KUKA Business Organization introduced in fiscal 2019 was further optimized at the start of fiscal 2021.

In the 2021 reporting year, as in the previous year, KUKA Group again comprised five main business segments – Systems, Robotics, Swisslog, Swisslog Healthcare and China – and also the Corporate Functions segment.

Systems

The Systems division is a partner for the automotive sector in the fields of robotics, automation and intralogistics. With adaptable, modular and automated manufacturing and logistics processes, Systems supports the automotive industry in making its production processes more efficient. Systems has been a strategic partner for major manufacturers worldwide for decades and is already working with its customers today on flexible, scalable concepts and solutions for the factory of tomorrow. As a pioneer in hardware and software solutions, Systems is providing impulses for transforming the vision of Industrie 4.0 into corporate reality. The Systems portfolio covers the entire value chain of a system: from individual system components, tools and fixtures to complete turnkey systems.

Robotics

The core component for automating production processes is supplied by the Robotics division: industrial, collaborative and mobile robots – together with robot controllers, software and digital services for the Industrial Internet of Things. The broad product portfolio – ranging from traditional 6-axis robots to SCARA robots – covers payload ranges from three to 1,300 kilograms. In addition, the Robotics portfolio includes robot-based, modular manufacturing cells for a wide range of applications. This enables KUKA to meet the various requirements of its customers optimally. Robotics also offers comprehensive support services.

Swisslog

With the Swisslog division, KUKA implements integrated automation solutions for forward-looking warehouses and distribution centers. As a general contractor, this division offers complete turnkey solutions, from planning through to implementation and service, employing data-driven and robot-based automation in particular. Swisslog offers smart technologies, innovative software and adapted support services to ensure that the competitiveness of its customers in the logistics sector is sustainably improved. By combining Swisslog logistics solutions with the robotic automation solutions of the other divisions of the Group, KUKA offers new possibilities of flexible automation along the entire value chain.

Swisslog Healthcare

The Swisslog Healthcare division (HCS) develops and implements automation solutions for modern hospitals. The aim is to boost efficiency and increase patient safety. With the aid of process optimizations in the field of medication management during and after in-patient treatment, hospital staff and pharmacists can gain more time for personal care, support and consultation. At the same time, the use of automation solutions can reduce the incidence of medication errors.

China

The China segment comprises all business activities of the Chinese companies in the Systems, Robotics, Swisslog and Swisslog Healthcare divisions. In addition to KUKA industrial robots, automation solutions such as warehouse management systems and healthcare systems are offered and sold in China.

Corporate Functions

KUKA Group's operating activities are supplemented by KUKA Aktiengesellschaft and other shareholdings, which is why these are aggregated in the Corporate Functions segment. Cross-divisional consolidation items are shown in a separate column. An overview of all Group companies, broken down by region, is shown in the schedule of shareholdings.

In accordance with the management approach, the content of the items presented in the segment reporting corresponds to the recognition and measurement standards used in internal reporting. In order to establish a connection between the segment and Group data, effects from measures to optimize working capital, to focus on sales potential and to integrate business units acquired in the past, as well as intersegment transactions are shown in the reconciliation column.

The following table shows the breakdown of non-current assets (consisting of intangible assets and property, plant and equipment) by company location.

	Non-current assets acc. to registered office of the company	
in € millions	2020	2021
Germany	300.0	282.6
Rest of Europe	126.0	157.4
North America	43.4	43.6
China	113.3	137.8
Other regions/consolidation	303.7	283.5
Total	**886.4**	**904.8**

The calculations for segment reporting rely on the following principles:

- Group external sales revenues show the divisions' respective percentage of consolidated sales for the Group as presented in the Group income statement.
- Intra-Group sales revenues are sales transacted between segments. In principle, transfer prices for intra-Group sales are determined based on the market.
- Sales revenues for the segments include revenues from sales to third parties as well as sales to other Group segments.
- EBIT reflects operating earnings, i.e. the earnings from ordinary activities before financial results and taxes.
- Elimination of scheduled and unscheduled depreciation and amortization on tangible and intangible assets from EBIT produces EBITDA.
- ROCE (return on capital employed) is the ratio of EBIT to average capital employed, which is largely non-interest bearing. To calculate ROCE the capital employed is based on an average value.

The reconciliation of capital employed to segment assets and segment liabilities is shown in the following table:

	in € millions	2020	2021
	Capital employed		
	Intangible assets	533.3	536.3
+	Tangible assets	353.1	368.5
+	Long-term finance lease receivables	119.6	100.7
+	Right-of-use assets	115.5	114.7
+	**Asset-side working capital**	**1,269.1**	**1,785.2**
	Inventories	307.9	445.6
	Contract assets	360.9	475.2
	Trade receivables	395.4	596.9
	Other receivables and assets	204.9	267.5
=	**Asset items of capital employed**	**2,390.6**	**2,905.4**
./.	Other provisions	137.6	138.7
./.	Contract liabilities	316.3	484.8
./.	Trade payables	353.3	634.2
./.	Other liabilities except for liabilities similar to bonds	338.2	401.9
=	**Liability-side working capital/Liability items of capital employed**	**1,145.4**	**1,659.6**
=	Capital employed	1,245.2	1,245.8
	Average capital employed	1,321.1	1,245.5
	Segment assets		
	Asset items of capital employed	2,390.6	2,905.4
+	Other participations	17.1	5.0
+	Investments accounted for at equity	26.4	29.7
=	Segment assets	2,434.1	2,940.1
	Segment liabilities		
	Liability items of capital employed	1,145.4	1,659.6
+	Pension provisions and similar obligations	117.6	95.8
+	Substantial restructuring provisions	31.0	3.3
=	Segment liabilities	1,294.0	1,758.7
	Working capital		
	Asset-side working capital	1,269.1	1,785.2
./.	Liability-side working capital	1,145.4	1,659.6
=	**Working capital**	**123.7**	**125.6**

Additional elements of the segment reports are contained in the management report on the operating business divisions Robotics, Systems, Swisslog, Swisslog Healthcare and China, as well as in the tables at the beginning of the Group notes.

Other notes

Related party disclosures

In accordance with IAS 24, persons or companies that may be influenced by or have influence on the reporting company must be disclosed separately, provided they have not already been included as consolidated companies in the financial statements.

Parties related to KUKA Group include mainly members of the Management and Supervisory Boards, including their close family members, as well as non-consolidated KUKA Group companies in which KUKA Aktiengesellschaft directly or indirectly holds a significant proportion of the voting rights or companies that hold a significant proportion of the voting rights in KUKA Aktiengesellschaft.

Controlled related parties that are not consolidated include:

- IWK Unterstützungseinrichtung GmbH, Karlsruhe
- KUKA Unterstützungskasse GmbH, Augsburg

Related parties that are joint ventures include:

- Chang'an Reis (Chongqing) Robotic Intelligent Equipment Co. Ltd, China
- Yawei Reis Robot Manufacturing (Jiangsu) Co. Ltd., Yangzhou City, China
- Shanghai Swisslog Technology Co., Ltd., Shanghai, China
- Shanghai Swisslog Healthcare Technology Co., Ltd. i. L., Shanghai, FTZ, China
- Shanghai Swisslog Logistics Automation Co., Ltd., Shanghai, FTZ, China
- Guangdong Swisslog Technology Co., Ltd., Shunde, China
- Otsaw Swisslog Healthcare Robotics Pte. Ltd., Singapore
- Otsaw Swisslog Healthcare Robotics GmbH

Related parties over which significant influence is exercised and which are accounted for as other investments include:

- RoboCeption GmbH, Munich

Direct shareholders in KUKA Aktiengesellschaft – Midea Electrics Netherlands (I) B.V. with a shareholding of 81.0387% and Midea Electrics Netherlands (II) B.V. with a shareholding of 14.2760%, which are wholly owned subsidiaries of Guangdong Midea Electric Company Limited, which in turn is wholly owned by Midea Group Co., Ltd. – are also related parties, as are Mr. Xiangjian He as the ultimate controlling party and his close family members.

The following table shows the receivables from and liabilities to related parties for the 2021 and 2020 fiscal years:

in € millions	Shares of KUKA AG in %	Group receivables from related parties		Group liabilities to related parties	
		Dec. 31, 2020	Dec. 31, 2021	Dec. 31, 2020	Dec. 31, 2021
Midea Group	–	9.3	16.0	153.2	176.8
Chang'an Reis (Chongqing) Robotic Intelligent Equipment Co. Ltd, China	50.0	–	3.8	–	1.4
Yawei Reis Robot Manufacturing (Jiangsu) Co. Ltd., China	49.0	–	0.2	1.0	–
RoboCeption GmbH, Munich	26.9	0.5	0.5	–	–
Others/less than €1 million		–	–	0.1	–
Total		**9.8**	**20.5**	**154.3**	**178.2**

The following table shows the goods and services provided to and received from related parties:

in € millions	Shares of KUKA AG in %	Goods and services provided by the Group to related parties		Goods and services provided to the Group by related parties	
		Dec. 31, 2020	Dec. 31, 2021	Dec. 31, 2020	Dec. 31, 2021
Midea Group	–	18.0	36.8	12.9	22.7
Chang'an Reis (Chongqing) Robotic Intelligent Equipment Co. Ltd, China	50.0	1.2	4.9	–	–
Yawei Reis Robot Manufacturing (Jiangsu) Co. Ltd., China	49.0	1.8	1.1	5.9	2.9
RoboCeption GmbH, Munich	26.9	–	–	–	
Total		**21.0**	**42.8**	**18.8**	**25.7**

Deliveries and services provided and received break down into the following transaction types:

	Goods and services provided by the Group to related parties		Goods and services provided to the Group by related parties	
in € millions	Dec. 31, 2020	Dec. 31, 2021	Dec. 31, 2020	Dec. 31, 2021
Purchases or sales of (finished/unfinished) goods	15.3	24.6	13.9	12.9
Services rendered or received	5.6	15.1	3.2	7.6
Service transfers in research and development	–	3.1	0.4	–
Transfers under financing agreements	–	0.1	1.3	1.6
Other	–	–	–	0.2
Total	**21.0**	**42.8**	**18.8**	**22.5**

The supply and service relationships with all related parties are conducted under the "dealing at arm's length" principle in accordance with usual market practice.

Compensation of the active Management Board and Supervisory Board

The total compensation of active members of the Management Board pursuant to section 314 para. 1 no. 6a of the German Commercial Code (HGB) for fiscal 2021 amounted to €5.1 million (2020: €4.1 million). Of this amount, €4.2 million was attributable to short-term benefits (2020: €2.5 million), €0.9 million to long-term variable compensation components (2020: €1.2 million), and €0.0 million to share-based payments (2020: €0.5 million). The long-term variable compensation is granted annually in the form of the Long-Term Performance Plan (LTPP) with a performance period of four years. At the beginning of each fiscal year, the Management Board members are assigned a target amount determined in their individual contracts (in 2021: k€503) for the respective tranche of the LTPP. At the end of the performance period, this target amount is multiplied by the target achievement for the financial performance target "relative earnings per share" (relative EPS). The EPS performance achieved by KUKA is compared with the EPS performance of relevant competitors. Relative EPS performance is measured by means of an annual comparison of KUKA's percentage EPS development with the percentage EPS development of relevant competitors. The payout amount determined is capped at 200% of the target amount. Payment is made in cash at the end of the performance period.

As at December 31, 2021, liabilities of €0.5 million were recognized in respect of short-term compensation components (2020: €0.8 million). The entitlement for this was fully earned in the year under review, but the actual payment is measured on the basis of the target achievement determined by the Supervisory Board on the basis of the currently valid compensation system and will be made in 2022.

The compensation of key management personnel of KUKA Group to be disclosed in accordance with IAS 24 includes the compensation of the active Management Board and the Supervisory Board.

The active members of the Management Board were compensated as follows:

in € millions	2020	2021
Short-term benefits (excluding share-based compensation)	2.4	2.2
Long-term benefits	2.1	2.1
Benefits due to termination of employment	–	2.1
Share-based compensation	0.1	0.3
Total	**4.6**	**6.7**

There are no post-employment benefits. The disclosure of share-based compensation relates to the expense recognized in the respective fiscal year.

No loans or advances were granted to members of the Management Board in the year under review or in the previous year; moreover, no contingent liabilities were entered into in favor of Management Board members.

The active members of the Supervisory Board were compensated as follows:

in € millions	2020	2021
Total compensation (including attendance fees)	1.1	1.2

The compensation of members of the Supervisory Board comprises an annual fixed compensation. In addition, there is compensation for committee work and an attendance fee. Employee representatives on the Supervisory Board also receive a regular salary from the respective employment relationship, with the amount corresponding to appropriate compensation for the work performed in the Group.

As at the end of the year under review, as in the previous year, no loans or advances were granted to members of the Supervisory Board; no contingent liabilities were entered into in favor of Supervisory Board members.

Compensation of former Management Board members

Apart from a few exceptions, former Management Board members whose terms of office ended no later than 2008 were granted company pension benefits that included old age, professional and employment disability, widows'/widowers' and orphans' pensions. The amount of accruals included for this group of persons in 2021 for current pensions and vested pension benefits totals €10 million (2020: €10 million). Pensions and surviving dependents' benefits for this group of persons amounted to €0.8 million (2020: €0.8 million).

Events after the balance sheet date

In a pending legal dispute in the USA, a settlement in the low single-digit million range was reached at the beginning of fiscal 2022. The provision recognized essentially corresponded to the settlement amount.

Furthermore, the decision was taken after the reporting date to dispose of certain assets of a subsidiary located in Belgium. Proceeds from the sale are expected to be in the low single-digit million euro range.

In addition, the Russia-Ukraine conflict represents a non-adjusting event that could impact the growth prospects in KUKA Group. Due to the extent of KUKA Group's operating activities in Russia, the Management Board expects only a limited direct impact on assets and sales revenues. The indirect effects of the sanctions against Russia can in principle affect all segments and relate, for example, to global supply and value chains, movements in commodity prices and exchange rates, as well as country-specific and global economic developments. At the time of reporting, these effects are not yet foreseeable, but the corresponding risks are being continuously monitored and assessed.

Audit fees

The fee for the auditors, PricewaterhouseCoopers GmbH, Wirtschaftsprüfungsgesellschaft, Munich, recognized as an expense in 2021 totals €1.2 million (2020: €2.4 million) for services provided in Germany. €1.1 million (2020: €0.8 million) was recognized for financial statement auditing services. Expenses of €0.0 million (2020: €0.4 million) were recognized for tax advisory services in the fiscal year and €0.3 million (2020: €1.2 million) for other services performed by the auditors. These mainly comprise IT-related consulting services.

€1.0 million (2020: €0.8 million) was recognized as an expense for financial statement auditing services performed for foreign subsidiaries. Expenses of €0.1 million (2020: €0.2 million) were recognized for tax advisory services and €0.1 million (2020: €0.0 million) for other services performed by the auditors.

Information on preparation and release

The Management Board prepared the consolidated financial statements on March 21, 2022 and released them for submission to the Supervisory Board. The Supervisory Board is responsible for examining and approving the consolidated financial statements.

Augsburg, March 21, 2022

KUKA Aktiengesellschaft

The Management Board

Peter Mohnen Alexander Tan

Corporate bodies

Management Board

Name	Year of birth	First appointed	Appointed until	Memberships in statutory supervisory boards and in comparable German and foreign controlling bodies of commercial enterprises As at Dec. 31, 2021
Peter Mohnen CEO	1968	Aug. 1, 2012	Jun. 30, 2024	
Alexander Tan Chief Financial Officer	1970	Jul. 1, 2021	Jun. 30, 2024	
Andreas Pabst Chief Financial Officer	1973	Dec. 6, 2018	Jun. 30, 2021 left office	

Supervisory Board

Name	Current occupation	Year of birth	First appointed [2]	Appointed until	Membership in statutory supervisory boards and in comparable German and foreign controlling bodies of commercial enterprises As at Dec. 31, 2021
Dr. Yanmin (Andy) Gu Chairman of the Supervisory Board	Director Vice President Midea Group	1963	Feb. 10, 2017	AGM 2023	**Auslandsmandate:** › Midea Electric Trading (Singapore) Co., Pte. Ltd., Singapore, Singapore › Midea Electric Trading (Thailand) Ltd., Bangkok, Thailand › Beautiland B.V., Amsterdam, Netherland › Frylands B.V., Amsterdam, Netherland › South American Holdco III, Amsterdam, Netherland › South American Holdco II B.V., Amsterdam, Netherland › Midea Electric Netherlands B.V., Amsterdam, Netherland › Midea Investment (Asia) Co. Ltd., Hongkong, China › Carrier Midea India Private Ltd., Haryana, India › Midea Heating and Ventilating Equipment Italia S.p.A., Saronno, Italia › Guangdong Midea Intelligent Robotics Co. Ltd., Guangdong, China
Michael Leppek [1] Deputy Chairman of the Supervisory Board	1st Authorized Representative and Managing Director IG Metall Augsburg	1970	Sep. 12, 2013	AGM 2023	**German mandates:** › MAN Energy Solutions SE › AIRBUS Helicopters Deutschland GmbH
Lin (Avant) Bai	President Midea Group Refrigerator Division	1981	Feb. 26, 2021	AGM 2023	
Wilfried Eberhardt [1]	Chief Marketing Officer KUKA Aktiengesellschaft	1959	May 15, 2008	AGM 2023	
Prof. Dr. Henning Kagermann	Chairman of the acatech Board of Trustees	1947	May 31, 2017	AGM 2023	**International mandate:** › SUSE SA, Luxemburg, Luxemburg
Armin Kolb [1]	Chairman of the Group Works Council of KUKA AG	1963	Jun. 5, 2013	AGM 2023	
Carola Leitmeir [1]	Deputy Chair of the Works Council of the KUKA Plants at Augsburg	1968	Jul. 1, 2009	AGM 2023	
Min (Francoise) Liu	Vice President Yangshengtang Co. Ltd. (since Jun. 1, 2021) HR Director Midea Group (until May 31, 2021)	1977	Feb. 10, 2017	AGM 2023	**International mandates:** › Foshan Midea Zhihui Real Estate Development Co., Ltd., Foshan, China › Guangdong Midea Smart Link Home Technology Co. Ltd., Foshan, China

Name	Current occupation	Year of birth	First appointed[2]	Appointed until	Membership in statutory supervisory boards and in comparable German and foreign controlling bodies of commercial enterprises As at Dec. 31, 2021
Manfred Hüttenhofer[1]	Head of Motion Control Competence Center, KUKA Deutschland GmbH	1964	Jun. 6, 2018	AGM 2023	
Dr. Myriam Meyer	Managing Director of mmtec	1962	Jun. 6, 2018	AGM 2023	**German mandate:** › Lufthansa Technik AG, Hamburg **International mandate:** › Wienerberger AG, Wien, Österreich
Tanja Smolenski[1]	Union Secretary to the Executive Committee of the IG Metall trade union, Fundamental Issues and Social Policy department, Berlin office	1973	Dec. 15, 2017	AGM 2023	
Dr. Chengmao Xu	President of Corporate Research Center Midea Group (until Jan. 17, 2021) Chief Development Officer of KUKA AG (from Jan. 18, 2021 to Aug. 31, 2021)	1965	Jun. 17, 2019	Resigned as of Jan. 17, 2021	
Helmut Zodl	CFO Midea Group (until Jan. 31, 2021) CFO GE Healthcare (from Feb. 1, 2021)	1972	Jan. 24, 2020	AGM 2023	**International mandate:** › Wipro GE Healthcare Pvt. Ltd. Bangalore, India

[1] Employee representative on the Supervisory Board

[2] The specification of first appointment is the date of initial membership of the Supervisory Board, whether by election at an Annual General Meeting, election pursuant to the German Co-Determination Act (MitbestG) or by court appointment.

Schedule of shareholdings of KUKA Aktiengesellschaft

As at December 31, 2021

	Name and registered office of the company	Currency	Method of consolidation	Share of equity in %
Germany				
1	Bopp & Reuther Anlagen-Verwaltungsgesellschaft mbH, Augsburg, Germany	EUR	k	100.00
2	Device Insight GmbH, Munich, Germany	EUR	k	100.00
3	KUKA Assembly & Test GmbH, Bremen, Germany [1]	EUR	k	100.00
4	KUKA Deutschland GmbH, Augsburg, Germany [1]	EUR	k	100.00
5	KUKA Industries GmbH & Co. KG, Obernburg, Germany [1]	EUR	k	100.00
6	KUKA Real Estate GmbH & Co. KG, Augsburg, Germany [1]	EUR	k	100.00
7	KUKA Real Estate Management GmbH, Augsburg, Germany	EUR	k	100.00
8	KUKA Systems GmbH, Augsburg, Germany [1]	EUR	k	100.00
9	Reis Holding GmbH, Obernburg, Germany	EUR	k	100.00
10	Swisslog (Deutschland) GmbH, Dortmund, Germany	EUR	k	100.00
11	Swisslog Augsburg GmbH, Augsburg, Germany	EUR	k	100.00
12	Swisslog GmbH, Dortmund, Germany	EUR	k	100.00
13	Swisslog Healthcare GmbH, Westerstede, Germany	EUR	k	100.00
14	Visual Components GmbH, Munich, Germany	EUR	k	100.00
15	WR Vermögensverwaltungs GmbH, Obernburg, Germany	EUR	k	100.00
16	Roboception GmbH, Munich, Germany	EUR	b	26.74
17	Otsaw Swisslog Healthcare Robotics GmbH [3]	EUR	at	100.00
18	IWK Unterstützungseinrichtung GmbH, Karlsruhe, Germany	EUR	nk	100.00
19	KUKA Unterstützungskasse GmbH, Augsburg, Germany	EUR	nk	100.00
Other Europe				
20	KUKA Automation ČR s.r.o. i.L., Chomutov, Czech Republic	CZK	k	100.00
21	KUKA Automatisering + Robots N.V., Houthalen, Belgium	EUR	k	100.00
22	KUKA AUTOMATISME + ROBOTIQUE S.A.S., Villebon-sur-Yvette, France	EUR	k	100.00
23	KUKA AUTOMATIZARE ROMANIA S.R.L., Sibiu, Romania	RON	k	100.00
24	KUKA CEE GmbH, Steyregg, Austria	EUR	k	100.00
25	KUKA Hungaria Kft., Taksony, Hungary	EUR	k	100.00
26	KUKA Iberia, S.A.U., Vilanova i la Geltrú, Spain	EUR	k	100.00
27	KUKA Nordic AB, Västra Frölunda, Sweden	SEK	k	100.00
28	KUKA Roboter Italia S.p.A., Rivoli, Italy	EUR	k	100.00
29	KUKA Robotics Ireland Ltd, Dundalk, Ireland	GBP	k	100.00

	Name and registered office of the company	Currency	Method of consolidation	Share of equity in %
30	KUKA Robotics OOO, Moscow, Russia	RUB	k	100.00
31	KUKA Robotics UK Limited, Wednesbury, UK	GBP	k	100.00
32	KUKA S-Base s.r.o. i.L., Roznov p.R., Czech Republic	CZK	k	100.00
33	KUKA Slovakia s.r.o., Dubnica nad Váhom, Slovakia	EUR	k	100.00
34	KUKA Systems Aerospace SAS, Bordeaux-Merignac, France	EUR	k	100.00
35	KUKA Systems France S.A., Montigny, France	EUR	k	99.99
36	KUKA Systems UK Limited, Halesowen, UK	GBP	k	100.00
37	Reis Espana S.L. i.L., Esplugues de Llobregat (Barcelona), Spain	EUR	k	100.00
38	Swisslog (UK) Ltd., Redditch, UK	GBP	k	100.00
39	Swisslog AB, Partille, Sweden	SEK	k	100.00
40	Swisslog AG, Buchs AG, Switzerland	CHF	k	100.00
41	Swisslog AS, Oslo, Norway	NOK	k	100.00
42	Swisslog B.V., Culemborg, Netherlands	EUR	k	100.00
43	Swisslog France SAS, Suresnes, France	EUR	k	100.00
44	Swisslog Healthcare AG, Buchs AG, Switzerland	CHF	k	100.00
45	Swisslog Healthcare Holding AG, Buchs AG, Switzerland	CHF	k	100.00
46	Swisslog Healthcare Italy SpA, Cuneo, Italy	EUR	k	100.00
47	Swisslog Holding AG, Buchs AG, Switzerland	CHF	k	100.00
48	Swisslog Italia S.r.l., Milan, Maranello, Italy	EUR	k	100.00
49	Swisslog N.V., Wilrijk, Belgium	EUR	k	100.00
50	Swisslog Technology Center Austria GmbH, Sipbachzell, Austria	EUR	k	100.00
51	Swisslog Technology Center Netherlands B.V., Valkenswaard, Netherlands	EUR	k	100.00
52	Swisslog Technology Center Sweden AB, Boxholm, Sweden	SEK	k	100.00
53	Swisslog Healthcare Netherlands B.V., Apeldoorn, Netherlands	EUR	k	100.00
54	Visual Components Oy, Espoo, Finland	EUR	k	100.00
North America				
55	KUKA Aerospace Holdings LLC, Sterling Heights, Michigan, USA	USD	k	100.00
56	KUKA Assembly and Test Corporation, Saginaw, Michigan, USA	USD	k	100.00
57	KUKA de Mexico S. de R.L.de C.V., Mexico City, Mexico	MXN	k	100.00
58	KUKA Manufactura S. de R.L.de C.V., Toluca, Mexico	MXN	k	100.00
59	KUKA Robotics Canada Ltd., Mississauga, Canada	CAD	k	100.00
60	KUKA Robotics Corp., Shelby Township, Michigan, USA	USD	k	100.00
61	KUKA Systems de Mexico S. de R.L. de C.V., Toluca, Mexico	MXN	k	100.00
62	KUKA Systems North America LLC, Sterling Heights, Michigan, USA	USD	k	100.00
63	KUKA Toledo Production Operations, LLC, Toledo, Ohio, USA[2]	USD	k	100.00

Name and registered office of the company		Currency	Method of consolidation	Share of equity in %
64	KUKA U.S. Holdings Company LLC, Sterling Heights, Michigan, USA	USD	k	100.00
65	Reis Robotics USA Inc., Carpentersville, USA	USD	k	100.00
66	Swisslog Logistics, Inc., Newport News, USA	USD	k	100.00
67	Swisslog USA Inc., Dover, Delaware, USA	USD	k	100.00
68	Translogic Corp., Dover, Delaware, USA	USD	k	100.00
69	Translogic Ltd. (Canada), Mississauga, Ontario, Canada	CAD	k	100.00
70	Visual Components North America Corporation, Lake Orion, Michigan, USA	USD	k	100.00
Latin America				
71	KUKA Roboter do Brasil Ltda., São Bernardo do Campo/São Paulo, Brazil	BRL	k	100.00
72	KUKA Systems do Brasil Ltda., São Bernardo do Campo/São Paulo, Brazil	BRL	k	100.00
Asia/Australia				
73	KUKA (Thailand) Co., Ltd., Bangkok, Thailand	THB	k	100.00
74	KUKA Automation Equipment (Shanghai) Co., Ltd., Shanghai, China	CNY	k	100.00
75	KUKA Automation Taiwan Ltd., Taipei, Taiwan, Taiwan	TWD	k	100.00
76	KUKA India Pvt. Ltd., Haryana, India	INR	k	100.00
77	KUKA Industries Automation (China) Co., Ltd., Kunshan, China	CNY	k	100.00
78	KUKA Industries Singapore Pte. Ltd., Singapore, Singapore	SGD	k	100.00
79	KUKA Japan K.K., Yokohama, Japan	JPY	k	100.00
80	KUKA Robot Automation Malaysia Sdn BhD, Puchong, Selangor, Malaysia	MYR	k	100.00
81	KUKA Robotics Australia Pty. Ltd., Port Melbourne, Australia	AUD	k	100.00
82	KUKA Robotics China Co. Ltd., Shanghai, China	CNY	k	50.00
83	KUKA Robotics Guangdong Co., Ltd., Foshan, Shunde, China	CNY	k	100.00
84	KUKA Robotics Korea Co. Ltd., Ansan, South Korea	KRW	k	100.00
85	KUKA Robotics Manufacturing China Co. Ltd., Shanghai, China	CNY	k	50.00
86	KUKA Systems (China) Co. Ltd., Shanghai, China	CNY	k	100.00
87	KUKA Systems (India) Pvt. Ltd., Maharashtra, Pune, India	INR	k	100.00
88	KUKA Vietnam Co., Ltd., Hanoi, Vietnam	VND	k	100.00
89	PT Swisslog Logistics Automation, Karet/Setiabudi/DKI Jakarta, Indonesia	IDR	k	100.00
90	Swisslog Malaysia Sdn Bhd, Selangor, Malaysia	MYR	k	100.00
91	Swisslog Asia Ltd., Hong Kong, China	HKD	k	100.00
92	Swisslog Australia Pty Ltd., Sydney, Australia	AUD	k	100.00
93	Swisslog Healthcare Asia Pacific Pte. Ltd., Singapore, Singapore	SGD	k	100.00
94	Swisslog Healthcare Korea Co., Ltd., Bucheon si, Gyeonggi-do, South Korea	KRW	k	100.00
95	Swisslog Healthcare Shanghai Co., Ltd., Shanghai, China	CNY	k	50.00
96	Swisslog Healthcare Trading MEA LLC., Emirate of Dubai, United Arab Emirates	AED	k	49.00

	Name and registered office of the company	Currency	Method of consolidation	Share of equity in %
97	Swisslog Middle East LLC, Dubai, United Arab Emirates	AED	k	49.00
98	Swisslog Singapore Pte Ltd., Singapore, Singapore	SGD	k	100.00
99	Chang'an Reis (Chongqing) Robotic Intelligent Equipment Co. Ltd, Chongqing, China	CNY	at	50.00
100	Guangdong Swisslog Technology Co., Ltd., Shunde, China	CNY	at	50.00
101	Otsaw Swisslog Healthcare Robotics Pte. Ltd., Singapore, Singapore	SGD	at	40.00
102	Shanghai Swisslog Technology Co., Ltd., Shanghai, China	CNY	at	50.00
103	Yawei Reis Robot Manufacturing (Jiangsu) Co. Ltd., Yangzhou City, China	CNY	at	49.00
104	Shanghai Swisslog Healthcare Technology Co., Ltd. i. L., Shanghai, FTZ, China [4]	CNY	at	100.00
105	Shanghai Swisslog Logistics Automation Co., Ltd., Shanghai, FTZ, China [4]	CNY	at	100.00

[1] Companies that have made use of the exemption pursuant to section 264 para. 3 or section 264b of the German Commercial Code (HGB)

[2] Principal place of business

[3] Included via 101. Otsaw Swisslog Healthcare Robotics Pte. Ltd, Singapore, Singapore

[4] Included via 102. Shanghai Swisslog Technology Co., Ltd., Shanghai, China

Method of consolidation

k Fully consolidated companies

nk Non-consolidated companies

at Financial asset accounted for by the equity method

b Participating interest

Responsibility statement

"To the best of our knowledge, and in accordance with the applicable reporting principles, the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and profit or loss of the Group, and the management report of the Group includes a fair review of the development and performance of the business and the position of the Group, together with a description of the principal opportunities and risks associated with the expected development of the Group."

Augsburg, March 21, 2022

KUKA Aktiengesellschaft

The Management Board

Peter Mohnen Alexander Tan

Independent auditor’s report

To KUKA Aktiengesellschaft, Augsburg

Report on the Audit of the Consolidated Financial Statements and of the Group Management Report

Audit Opinions

We have audited the consolidated financial statements of KUKA Aktiengesellschaft, Augsburg, and its subsidiaries (the Group), which comprise the consolidated statement of financial position as at December 31, 2021, and the consolidated statement of comprehensive income, consolidated statement of profit or loss, consolidated statement of changes in equity and consolidated statement of cash flows for the financial year from January 1 to December 31, 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 KUKA Aktiengesellschaft, which is combined with the Company’s management report, for the financial year from January 1 to December 31, 2021. In accordance with the German legal requirements, we have not audited the content of those parts of the group management report listed in the “Other Information” section of our auditor’s report.

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 § [Article] 315e Abs. [paragraph] 1 HGB [Handelsgesetzbuch: German Commercial Code] and, in compliance with these requirements, give a true and fair view of the assets, liabilities, and financial position of the Group as at December 31, 2021, and of its financial performance for the financial year from January 1 to December 31, 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 those parts of the group management report listed in the “Other Information” section of our auditor’s report.

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 and the EU Audit Regulation (No. 537/2014, referred to subsequently as “EU Audit Regulation”) in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). We performed the audit of the consolidated financial statements in supplementary compliance with the International Standards on Auditing (ISAs). Our responsibilities under those requirements, principles and standards 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 European law and German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. In addition, in accordance with Article 10 (2) point (f) of the EU Audit Regulation, we declare that we have not provided non-audit services prohibited under Article 5 (1) of the EU Audit Regulation. 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.

Key Audit Matters in the Audit of the Consolidated Financial Statements

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements for the financial year from January 1 to December 31, 2021. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon; we do not provide a separate audit opinion on these matters.

In our view, the matters of most significance in our audit were as follows:

1. Accounting treatment of deferred taxes
2. Recoverability of goodwill
3. Recognition of revenue from long-term construction contracts

Our presentation of these key audit matters has been structured in each case as follows:

1. Matter and issue
2. Audit approach and findings
3. Reference to further information

Hereinafter we present the key audit matters:

1. Accounting treatment of deferred taxes

1. In the consolidated financial statements of the Company deferred tax assets amounting to EUR 95.8 million after netting are reported. After netting with matching deferred tax liabilities and valuation allowances, deferred tax assets of EUR 68.8 million are recognized on deductible temporary differences and EUR 27.0 million on tax loss carryforwards. These items were recognized to the extent that the executive directors consider it probable that taxable profit will be available in the foreseeable future which will enable the deductible temporary differences and unused tax loss carryforwards to be utilized. For this purpose, insofar as sufficient deferred tax liabilities are not available, future taxable profits are projected on

the basis of the adopted business plan, including the expected impact of the ongoing coronavirus crisis. No deferred tax assets were recognized in respect of unused tax loss carryforwards amounting in total to EUR 726.0 million since it is not probable that they will be utilized for tax purposes by means of offset against future taxable profits.

From our point of view, the accounting treatment of deferred taxes was of particular significance in the context of our audit, as it depends to a large extent on the estimates and assumptions made by the executive directors and is therefore subject to uncertainties, including against the backdrop of the impacts of the coronavirus crisis.

2. As part of our audit, we assessed, among other things, the internal processes and controls for recording tax matters as well as the methodology used for the determination, accounting treatment and measurement of deferred taxes. We also assessed the recoverability of the deferred tax assets relating to deductible temporary differences and unused tax loss carryforwards on the basis of the Company's internal forecasts of its future earnings situation, and the appropriateness of the underlying estimates and assumptions. In doing so, we also assessed the executive directors' estimate as to the impact of the coronavirus pandemic on the Company's business and evaluated how this was taken into consideration in calculating future earnings.

   Based on our audit procedures, we were able to satisfy ourselves that the estimates and assumptions made by the executive directors are substantiated and sufficiently documented.

3. The Company's disclosures relating to deferred taxes are contained in number 5 "Income taxes/Deferred taxes" in the "Deferred taxes" section of the notes to the consolidated financial statements.

2. Recoverability of goodwill

1. In the Company's consolidated financial statements goodwill amounting in total to EUR 323.2 million (8.7% of total assets or 23.9% of equity) is reported under the "Intangible assets" balance sheet item. Goodwill is tested for impairment by the executive directors once a year or when there are indications of impairment to determine any possible need for write-downs. The impairment test is carried out at the level of the groups of cash-generating units to which the relevant goodwill is allocated. The carrying amount of the relevant cash-generating units, including goodwill, is compared with the corresponding recoverable amount in the context of the impairment test. The recoverable amount is generally determined using the value in use. The present value of the future cash flows from the respective group of cash-generating units normally serves as the basis of valuation. Present values are calculated using discounted cash flow models. For this purpose, the adopted medium-term business plan of the Group forms the starting point which is extrapolated based on the strategic planning and assumptions about long-term rates of growth. These projections also factor in expectations as to the future development of the market and assumptions as to the development of macroeconomic variables, as well as the expected impacts of the ongoing coronavirus crisis on the Group's business. The discount rate used is the weighted average cost of capital for the respective group of cash-generating units. The impairment test determined that no write-downs were necessary.

   The outcome of this valuation is dependent to a large extent not only on the estimates made by the executive directors with respect to the future cash inflows from the respective group of cash-generating units, the discount rate used, the rate of growth and other assumptions but also the impacts of the coronavirus pandemic, and is therefore subject to considerable uncertainty. Against this background and due to the complex nature of the valuation, this matter was of particular significance in the context of our audit.

2. As part of our audit, we assessed the methodology used for the purposes of performing the impairment test, among other things. After matching the future cash inflows used for the calculation against the business plan of the Group, adopted by the executive directors and approved by the Supervisory Board, we assessed the appropriateness of the calculation, in particular by reconciling it with general and sector-specific market expectations. In this context, we also assessed the executive directors' estimate as to the impact of the coronavirus pandemic on the Group's business and evaluated how this was taken into consideration in calculating the future cash flows. In addition, we assessed the appropriate consideration of the costs of Group functions. In the knowledge that even relatively small changes in the discount rate applied or the growth rate can have a material impact on the value of the entity calculated in this way, we focused our testing in particular on the parameters used to determine the discount rate applied, and assessed the calculation model. We performed our own sensitivity analyses in order to reflect the uncertainty inherent in the projections. Taking into account the information available, we determined that the carrying amounts of the cash-generating units, including the allocated goodwill, were adequately covered by the discounted future net cash flows.

   Overall, the valuation parameters and assumptions used by the executive directors are in line with our expectations and are also within the ranges considered by us to be reasonable.

3. The Company's disclosures on goodwill are contained in number 7 "Intangible assets" in the "Goodwill" section of the notes to the consolidated financial statements.

3. Recognition of revenue from long-term construction contracts

1. In the Company's consolidated financial statements revenue amounting to EUR 3,286.2 million, of which EUR 1,925.1 million was recognized over time, is reported in the income statement. EUR 475.2 million in contract assets and EUR 484.8 million in contract liabilities were recognized in the consolidated balance sheet as of December 31, 2021. Revenue from contracts with customers is recognized over time if an asset is created that has no alternative use for the KUKA Group and the Group has an enforceable right to payment for performance completed to date. Revenue is recognized over time even if an asset is created or enhanced and the customer has since obtained control over that asset. When recognizing revenue over time, the revenue is generally recognized on the basis of the stage of completion, which is calculated as the ratio of the actual contract costs incurred to estimated total contract costs. With respect to the complex production processes, the recognition of revenue over time requires in particular an effective internal budgeting and reporting system, including concurrent project costing, as well as a functioning internal control system.

   Against this background, the proper application of the accounting standard on revenue recognition is considered to be complex and to a certain extent based on estimates and assumptions made by the executive directors. This matter was therefore of particular significance for our audit.

2. In light of the fact that the complexity and the need to make estimates and assumptions give rise to an increased risk of accounting misstatements, we assessed the Group's processes and controls for recognizing revenue from contracts with customers. Our specific audit approach included testing of the controls and substantive audit procedures. We primarily assessed the process for properly identifying and classifying

performance obligations as being satisfied over time or at a specific point in time, as well as the cost accounting system and other relevant systems used to account for contracts with customers. In addition, we verified the proper recognition and allocation of individual costs and assessed the amount and allocation of shared overheads. We also assessed the project calculations underlying the customer-specific contracts and the determination of the stage of completion.

We were able to satisfy ourselves that the systems, processes and controls in place are appropriate overall and that the estimates and assumptions made by the executive directors are sufficiently documented and substantiated to ensure that revenue from contracts with customers is properly accounted for.

3. The Company's disclosures relating to revenue recognition are contained in sections 1 "Revenue" and 14 "Contract assets and contract liabilities" of the notes to the financial statements.

Other Information

The executive directors are responsible for the other information. The other information comprises the subsections marked (*) in the "Research and Development" and in the "Sustainability at KUKA" sections of the group management report.

The other information also comprises

- the statement on corporate governance pursuant to § 289f HGB and § 315d HGB included in the "Corporate Governance Report" section of the group management report
- the separate non-financial report pursuant to § 289b Abs. 3 HGB and § 315b Abs. 3 HGB
- the remaining parts of the annual report – excluding cross-references to external information – with the exception of the audited consolidated financial statements, the audited group management report and our auditor's 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.

If, based on the work we have performed on the other information, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of the 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 the EU Audit Regulation and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) and supplementary compliance with the ISAs 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.
- 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.

We also provide those charged with governance with a statement that we have complied with the relevant independence requirements, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, the related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor’s report unless law or regulation precludes public disclosure about the matter.

Other legal and regulatory requirements

Assurance Report in Accordance with § 317 Abs. 3a HGB on the Electronic Rendering of the Consolidated Financial Statements and the Group Management Report Prepared for Publication Purposes

Assurance Opinion

We have performed assurance work in accordance with § 317 Abs. 3a HGB to obtain reasonable assurance about whether the rendering of the consolidated financial statements and the group management report (hereinafter the “ESEF documents”) contained in the attached electronic file “KUKA_KA_LB.zip” and prepared for publication purposes complies in all material respects with the requirements of § 328 Abs. 1 HGB for the electronic reporting format (“ESEF format”). In accordance with German legal requirements, this assurance work only extends to the conversion of the information contained in the consolidated financial statements and the group management report into the ESEF format and therefore relates neither to the information contained within this rendering nor to any other information contained in the above-mentioned electronic file.

In our opinion, the rendering of the consolidated financial statements and the group management report contained in the above-mentioned attached electronic file and prepared for publication purposes complies in all material respects with the requirements of § 328 Abs. 1 HGB for the electronic reporting format. We do not express any opinion on the information contained in this rendering nor on any other information contained in the above-mentioned electronic file beyond this reasonable assurance conclusion and our audit opinion on the accompanying consolidated financial statements and the accompanying group management report for the financial year from January 1 to December 31, 2021 contained in the “Report on the Audit of the Consolidated Financial Statements and on the Group Management Report” above.

Assurance Opinion

We conducted our assurance work on the rendering of the consolidated financial statements and the group management report contained in the above-mentioned attached electronic file in accordance with § 317 Abs. 3a HGB and the IDW Assurance Standard: Assurance Work in Accordance with § 317 Abs. 3a HGB on the Electronic Rendering of Financial Statements and Management Reports Prepared for Publication Purposes (IDW AsS 410 (10.2021)) and the International Standard on Assurance Engagements 3000 (Revised). Accordingly, our responsibilities are further described below in the “Group Auditor’s Responsibilities for the Assurance Engagement on the ESEF Documents” section. Our audit firm has applied the IDW Standard on Quality Management: Requirements for Quality Management in the Audit Firm (IDW QS 1).

Responsibility of the Executive Directors and the Supervisory Board for the ESEF Documents

The executive directors of the Company are responsible for the preparation of the ESEF documents including the electronic rendering of the consolidated financial statements and the group management report in accordance with § 328 Abs. 1 Satz 4 Nr. 1 HGB and for the tagging of the consolidated financial statements in accordance with § 328 Abs. 1 Satz 4 Nr. 2 HGB

In addition, the executive directors of the Company are responsible for such internal control as they have considered necessary to enable the preparation of ESEF documents that are free from material non-compliance with the requirements of § 328 Abs. 1 HGB for the electronic reporting format, whether due to fraud or error.

The executive directors of the Company are also responsible for the submission of the ESEF documents together with the auditor's report and the attached audited consolidated financial statements and audited group management report as well as other documents to be published to the operator of the German Federal Gazette [Bundesanzeiger].

The supervisory board is responsible for overseeing the preparation of the ESEF documents as part of the financial reporting process.

Group Auditor's Responsibilities for the Assurance Work on the ESEF Documents

Our objective is to obtain reasonable assurance about whether the ESEF documents are free from material non-compliance with the requirements of § 328 Abs. 1 HGB, whether due to fraud or error. We exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material non-compliance with the requirements of § 328 Abs. 1 HGB, whether due to fraud or error, design and perform assurance procedures responsive to those risks, and obtain assurance evidence that is sufficient and appropriate to provide a basis for our assurance conclusion.
- Obtain an understanding of internal control relevant to the assurance work on the ESEF documents in order to design assurance procedures that are appropriate in the circumstances, but not for the purpose of expressing an assurance conclusion on the effectiveness of these controls.
- Evaluate the technical validity of the ESEF documents, i.e., whether the electronic file containing the ESEF documents meets the requirements of the Delegated Regulation (EU) 2019/815 in the version applicable as at the balance sheet date on the technical specification for this electronic file.
- Evaluate whether the ESEF documents enables an XHTML rendering with content equivalent to the audited consolidated financial statements and to the audited group management report.
- Evaluate whether the tagging of the ESEF documents with Inline XBRL technology (iXBRL) enables an appropriate and complete machine-readable XBRL copy of the XHTML rendering.

Further Information pursuant to Article 10 of the EU Audit Regulation

We were elected as group auditor by the annual general meeting on May 21, 2021. We were engaged by the supervisory board on February 8, 2022. We have been the group auditor for KUKA Aktiengesellschaft, Augsburg, without interruption since the financial year 2020.

We declare that the audit opinions expressed in this auditor's report are consistent with the additional report to the audit committee pursuant to Article 11 of the EU Audit Regulation (long-form audit report).

Reference to an other Matter – Use of the Auditor's Report

Our auditor's report must always be read together with the audited consolidated financial statements and the audited group management report as well as the assured ESEF documents. The consolidated financial statements and the group management report converted to the ESEF format – including the versions to be published in the Federal Gazette – are merely electronic renderings of the audited consolidated financial statements and the audited group management report and do not take their place. In particular, the "Report on the Assurance on the Electronic Rendering of the Consolidated Financial Statements and the Group Management Report Prepared for Publication Purposes in Accordance with § 317 Abs. 3a HGB" and our assurance opinion contained therein are to be used solely together with the assured ESEF documents made available in electronic form.

German public auditor responsible for the engagement

The German Public Auditor responsible for the engagement is Holger Graßnick.

Munich, March 21, 2022

PricewaterhouseCoopers GmbH, Wirtschaftsprüfungsgesellschaft

Holger Graßnick	ppa. Stefan Postenrieder
German Public Auditor	German Public Auditor
(Wirtschaftsprüfer)	(Wirtschaftsprüfer)

Glossary

ABS
Asset-backed securities. Asset-backed securities are bonds or notes that are collateralized with assets (usually receivables). Receivables are purchased within the framework of an ABS program.

AC (at Amortized Cost)
Measurement at amortized cost.

AGV
Automated guided vehicle

At equity
Method of accounting for investments in and business relationships with associated companies or joint ventures in the financial statements.

Purchase commitments
Payment obligation from purchases.

CAGR
CAGR is the acronym for Compound Annual Growth Rate, i.e. the average annual growth rate of a key performance indicator over a specified period.

Capital employed
Capital employed includes working capital as well as intangible assets and tangible fixed assets. Capital employed thus represents the difference between operating assets and non-interest-bearing debt capital.

Cash earnings
Cash earnings are a measurement for the inflow or outflow of cash from the operating profits (EBIT). They are the resulting balance from operating profits, interest, taxes, depreciation as well as other non-payment-related expenses and income.

Corporate compliance
Corporate compliance means that all employees conform to the company's legislative framework and internal policies and do not contravene any applicable laws. Proactive risk minimization is also part of a company's compliance management system.

Corporate governance
Common international term for responsible corporate management and control that aims at creating long-term value.

GCGC
German Corporate Governance Code: the German Government Commission's list of requirements for German companies (since 2002).

Derivatives
Financial instruments whose value is largely derived from a specified price and the price fluctuations/expectations of an underlying base value, e.g. exchange rates.

Declaration of Compliance
Declaration of the Management Board and the Supervisory Board in accordance with section 161 of the German Stock Corporation Act (AktG) regarding the implementation of the recommendations of the Government Commission in the German Corporate Governance Code.

Exposure
A key figure used to assess risk. This key figure includes all incoming payments in a 90-day period prior to the record date of the down payments, payments based on percentage of completion or compensation after acceptance of the work carried out. In addition, the key figure also comprises all customer payments made within 90 days and which have not yet been supplied with deliveries/services including the sum of unpaid invoices following delivery or service supplied to the customer, the POC receivables and any purchase commitments.

FLAC (Financial Liabilities Measured at Amortized Cost)
Financial liabilities measured at amortized cost.

FVtPL
Financial instruments measured at fair value through profit or loss.

FVOCI
Financial instruments measured at fair value through other comprehensive income.

General industry
General industrial markets not including the automotive industry.

IBOR
Interbank offered rates (IBORs) are average interest rates at which banks can raise loans on the interbank market.

IIoT
Industrial Internet of Things: networking of machines and technologies in industrial and manufacturing environments. Through connection of the IT world to physical systems, industrial processes and sequences can be made more efficient and flexible, and new business models can be developed.

Employees
All figures for employees in the annual report are based on the full-time equivalent.

Net liquidity/Net debt
Net liquidity/net debt is a financial control parameter consisting of cash, cash equivalents and securities minus current and non-current financial liabilities.

Percentage of completion method (POC)
Accounting method of revenue and profit recognition according to the stage of completion of an order. This method is used for customer-specific construction contracts.

Rating
Assessment of a company's creditworthiness (solvency) determined by a rating agency based on analyses of the company. The individual rating agencies use different assessment levels.

ROCE
ROCE (return on capital employed) is the ratio of earnings before interest and taxes to net capital employed. To calculate ROCE the capital employed is based on an average value.

SCARA
Selective Compliance Articulated Robot Arm.

Trade working capital
Trade working capital is defined as current assets minus current liabilities directly associated with everyday business operations; that is, inventories (minus advance payments) plus trade receivables, contract assets and receivables for manufacturing orders minus liabilities for trade receivables, contract liabilities and manufacturing orders.

Working capital
Working capital consists of the inventories, trade receivables, other receivables and assets, and the balance of receivables from and payables to affiliated companies, as far as these are not allocated to financial transactions, minus other provisions, trade payables, other payables with the exception of liabilities similar to bonds and deferred income.

Financial calendar 2022

First quarter interim report	April 29, 2022
Annual General Meeting, Augsburg/Germany	May 17, 2022
Interim report to mid-year	August 4, 2022
Interim report for the first nine months	October 28, 2022

This Annual Report was published on March 29, 2022 and is available in German and English on KUKA Aktiengesellschaft's website. The German version is legally binding in cases of doubt. The report contains forward-looking statements on expected developments. These statements are based on current expectations and assessments and are naturally subject to risks and uncertainties. Actual results may differ from these statements. The key performance indicators contained in the annual report have been rounded in accordance with standard commercial practice. In individual cases, it is therefore possible that figures in this report do not add up exactly to the total stated and that percentages do not precisely correspond to the values indicated.

Contact and imprint

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