Forecast, opportunities and risk report

Opportunities 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 risks, especially technical ones. The Executive 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 Executive 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 divisions and subsidiaries are exposed.

Group management regularly assesses the likelihood that identified risks will occur and their potential impact on expected earnings (EBIT). Risks are categorized according to worst, medium and best case scenarios including the expected impact of the occurrence of an event. 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, i. e. risks according 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. The information that has been collected in this way is summarized in a risk report that is also prepared each month and addressed to the Executive Board of KUKA Group. This report contains a top 10 risk assessment and a risk exposure assessment (overall risk situation) for the divisions, 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 Executive Board of KUKA Group and the management of the divisions. The identified risks are additionally presented and explained in more detail to the Executive 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. These plenums also assess the plausibility of the reported risks and determine how to avoid similar risks in future. The risk report is also reviewed during Executive and Supervisory Board meetings, especially by the Audit Committee.

The managers of the divisions and subsidiaries are directly responsible for the early identification, control and communication of risks. 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 in line with the size of the company. Internal ad hoc announcements are mandatory whenever risks exceed the Group's defined reporting thresholds. The standard risk management procedures applied throughout the Group are efficient and effective. The head of risk management coordinates the risk management system. He compiles the individual risks identified into the aforementioned top 10 risk overviews or risk exposure overviews and communicates and monitors them. This role is based within KUKA Aktiengesellschaft's Group 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.

The Group's risk management system enables the Executive 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 guideline 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 control system (see management report, "Internal control and risk management system" section, page 65 et seq.) 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.

Strategic risks and opportunities

KUKA's business divisions aim to be among the technology and market 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 technical 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. The risk of developing non-marketable products and systems is reduced through application-oriented development, partnerships with system integrators and alliances and cooperative research projects with, for example, the German Aerospace Center (DLR) in Wessling near Munich, the RWTH technical college in Aachen and several institutes of the Fraunhofer Society. Strategic risks and opportunities are not quantified.

Operational risks and opportunities – KUKA Group

KUKA Group's opportunities 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 total aggregated maximum risk (worst case) and expected risk value, which are calculated on the basis of the various weighted scenarios and their respective likelihood of occurrence.

Opportunities are evaluated by the individual divisions and are not further aggregated. For this reason, the opportunities are dealt with in greater detail in the following sections on the divisions (Robotics, Systems, Swisslog).

Group risk exposure

	Worst case		Expected risk value	
in € millions	2015	2016	2015	2016
Legal risks	6.5	6.1	0.4	-0.5
Economic risks	51.2	26.4	2.8	-3.8
Total for the Group	**57.7**	**32.5**	**3.2**	**-4.3**

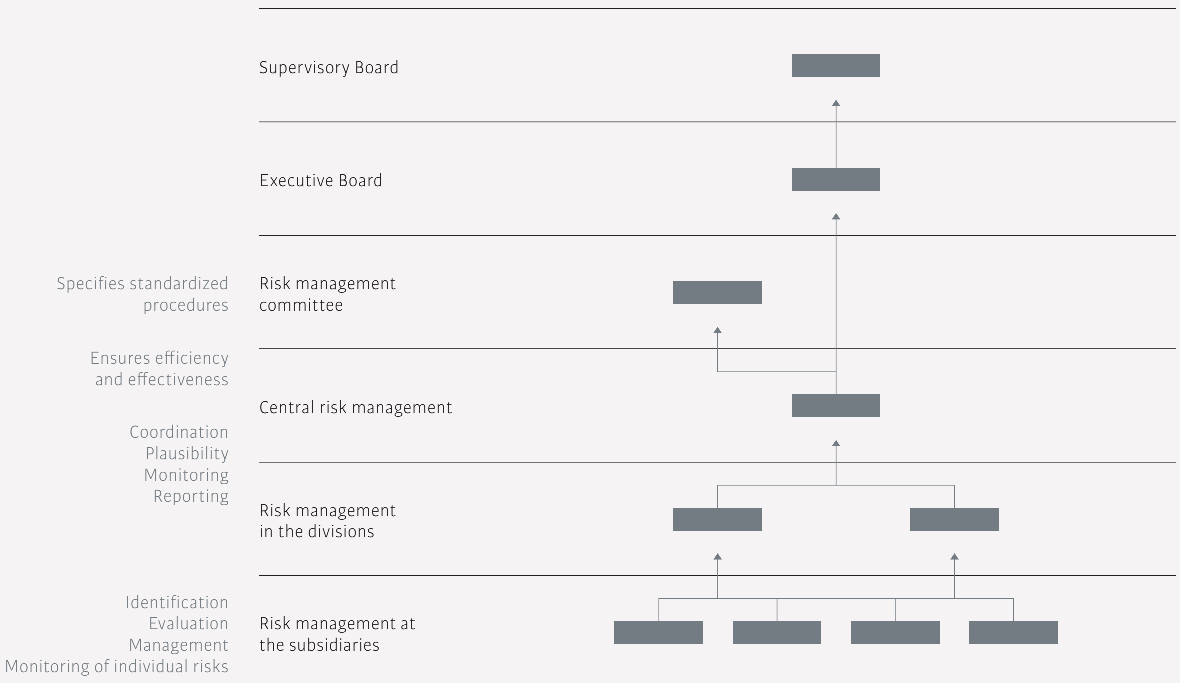
Legal and economic risks occur primarily as a result of the activities of the Robotics, Systems and Swisslog divisions. The changes on the previous year can be explained in part by the positive development of business and also by intensified risk mitigation measures, which in some cases result in a theoretically negative expected risk value.

More detailed explanations of legal and economic risks can be found in this section with regard to cross-division risks that are managed at Group level or in the following sections with regard to the individual divisions (Robotics, Systems, Swisslog). We also evaluate the potential worst-case damage that could be caused by the individual risks and the likelihood that they will occur, categorized as follows:

	Maximum loss	Likelihood of occurrence
Low	to €5 million	to 10%
Medium	€5 to 10 million	10 to 25%
High	€10 to 20 million	25 to 40%
Very high	over €20 million	over 40%

Please refer to the notes, starting on page 78, for details regarding the precautionary balance sheet measures for the identified risks.

Risk management organization



Internal and external auditors check the risk management system and the risk early detection system

Cross-division opportunities and risks such as financing, personnel and IT are analyzed and managed at Group level, not by the individual divisions, which is why said risks are only addressed from the Group perspective in the opportunity and risk report.

Since KUKA conducts business around the world, it is obliged to comply with many international and country-specific laws and regulations issued by, for example, 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. At the present time, 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 legal risks. 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 the lack of patent and brand protection in Asia. KUKA has developed an independent strategy to safeguard its intellectual property, which is primarily secured by patents and trademark rights.

In addition, Group-wide Directors' and Officers' (D&O) liability insurance policies are in place that cover the managing bodies (Executive Board and managing directors) and supervisory bodies (Supervisory Board, administrative and advisory boards) of the German and foreign subsidiaries. Existing insurance policies are reviewed annually in order to weigh the relationship between the insurance protection and deductible amount versus the risk premium.

There are no operating risks in existence for KUKA AG or other companies.

Operational risks and opportunities in the divisions

KUKA is exposed to the cyclical investment behavior of its customers in the various market subsectors. A major portion of the Systems, Robotics and Swisslog 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 operative 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.

KUKA benefited from significant investment activities in both the automotive industry and the aircraft industry and general machinery and systems engineering sector throughout 2016. Additional opportunities arose because KUKA Group's key automotive customers enjoy an excellent competitive position in their markets. In comparison to its own competitors, KUKA Group sees business growth opportunities due to its customer portfolio, particularly with respect to the growth of its customers' market shares. Further opportunities arise due to the general trend toward greater automation in non-industrial sectors, such as the long-term prospects associated with assisting an aging society. The acquisition of Swisslog Group in December 2014 reduced dependency on the cyclical automotive industry, as Swisslog implements automation solutions for hospitals, warehouses and distribution centers.

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. Generally, KUKA sources product components from several suppliers in order to minimize the risk of sharp price rises 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.

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 subsuppliers. 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 manage such risks or avoid them altogether.

KUKA sees an opportunity to continuously expand its customer base in general industry. One of the corporation's key strategic thrusts is to penetrate new, non-automotive markets. The aim is to penetrate the healthcare sector and other consumer-related markets in which human-machine collaboration will in future be essential. Systems used for human-machine collaboration can operate without protective barriers or similar safety measures. One of the division's sections, Advanced Robotics, focuses on developing and implementing the technology for such innovative products and applications. The company's profitability will become less and less dependent on exchange-rate fluctuations as it increasingly spreads its value added across different local currencies.

Robotics risk exposure

	Worst case	Expected risk value
Legal risks	0.0	0.0
Economic risks	12.1	0.0
Total for Robotics	**12.1**	**0.0**

The assessed potential damage associated with all individual risks is low (to €5.0 million) and the likelihood of occurrence is low to high (to 40.0%).

KUKA Systems

This division's sales 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 while already processing the orders, 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 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 associated with the project business arise mainly when parts can be purchased at a lower cost than originally estimated and by invoicing the customer for any change orders received over the course of the project.

Major automakers throughout the world are currently feverishly expanding their global manufacturing capacities. KUKA increasingly works together with internal partners, whereby several of the division's regional subsidiaries collaborate on a project, especially in South America and Asia. In these situations, risks involve information exchange, the value-added process and the IT-based master project management system. There are also organizational risks associated with extraordinarily rapid and strong growth in business volume, particularly in emerging markets. KUKA mitigates these risks by harmonizing its global IT systems and deploying experienced internal and contract employees when establishing and expanding the local organizations.

The increasing variety of models offered by the automotive industry has 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 Wrangler brand continues to promise above-average growth prospects compared to other American car models. KUKA again participated in this growth during 2016. Here risks involve greater dependence on the volumes produced for the American car market.

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 mitigating risks.

Systems risk exposure

	Worst case	Expected risk value
Legal risks	4.6	0.0
Economic risks	13.3	-4.3
Total for Systems	**17.9**	**-4.3**

The assessed potential damage associated with all individual risks is low to high (to €20.0 million) and the likelihood of occurrence is low to medium (to 25%). Intensified risk mitigation measures result in a theoretically negative expected risk value in individual cases.

Swisslog

The division is subject to long-term investment cycles spread over various industries, such as hospitals, pharmaceuticals, food and e-commerce. The competition and the associated pressure on prices vary from one region to another. High investments in its own products to expand its range of solutions serve to strengthen the company's competitive position considerably. In addition to synergy effects, integration into KUKA enables expansion of the range of solutions by making it possible to offer customers integrated automation and robotics solutions.

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 checked, 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.

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.

Swisslog risk exposure

	Worst case	Expected risk value
Legal risks	1.5	-0.5
Economic risks	1.0	0.5
Total for Swisslog	**2.5**	**0.0**

The assessed potential damage associated with all individual risks is low (to €5.0 million) and the likelihood of occurrence is low to high (to 40.0%). Intensified risk mitigation measures result in a theoretically negative expected risk value in individual cases.

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.

The significant improvement in the company's credit rating during recent years is a reflection of the positive development of KUKA Group and guarantees access to a broad investor base as a source of finance. Standard & Poor's awards KUKA Group a rating of BB+ along with a positive outlook. Early in 2017, Moody's even raised the KUKA Group rating to investment grade and now rates KUKA as Baa3 with a stable outlook.

KUKA pursues a conservative debt policy with a balanced funding portfolio. This is based on promissory note loans issued in 2015 with maturity dates up to 2022, an ABS program and a syndicated loan significantly extended and adapted in 2016 with a term until 2022. The usual financial covenants were agreed for the syndicated loan. KUKA monitors adherence to these covenants on a monthly basis; the covenants were complied with throughout fiscal 2016. As of December 31, 2016, all the covenants were well within the contractually defined limits. Please refer to the notes to the annual financial statements, "Financial liabilities/ Financing", page 108, for comprehensive details of the syndicated loan and the extent to which the agreed credit lines have been utilized.

KUKA hedges the risks from operations and financial transactions with financial derivatives. As a matter of principle, no hedging transactions are entered into without an underlying basic transaction. 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 guidelines 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, starting on page 111.

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).

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. Improvements in both business and economic prospects enable the company to strengthen the loyalty of its core personnel, train new, highly skilled employees and entice new recruits to join the Group. This applies to the traditional markets in Europe and the United States, but especially to recruiting employees in growth markets, where the need for skilled employees is growing steadily. Last but not least, in-house continuing education programs such as those offered by KUKA Academy or employee suggestion programs generate opportunities resulting from the improved motivation and qualification of the workforce.

IT risks and opportunities

IT risks have risen over the past number of years, not least because of the importance of IT to business processes. These risks relate to both the frequency of viruses or hacking and the damage they could potentially cause. The existing IT security and business continuity management systems as well as guidelines 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 digitization of business processes.

Compliance risks

Compliance violations may lead to fines, sanctions, judicial orders regarding future conduct, forfeiture of profits, exclusion from certain transactions, loss of trade licenses or other restrictions. Furthermore, involvement in potential corruption proceedings could harm the overall reputation of KUKA Group and could have a negative impact on efforts to compete for business in both the public and private sectors. Such proceedings could also have a negative impact on the relationship KUKA Group has with business partners upon which it depends as well as its ability to find new business partners. They could furthermore negatively impact the company's ability to pursue strategic projects and transactions of potential importance for the business, such as joint ventures or other forms of cooperation. Ongoing or future proceedings could lead to the suspension of some existing contracts, and third parties, including competitors, could initiate legal proceedings against KUKA Group for substantial sums of money.

KUKA therefore rolled out a Corporate Compliance Program in early 2008 to make such risks transparent and controllable. The Compliance Committee established through this program meets at regular intervals and ad hoc and reports to KUKA Aktiengesellschaft's CEO, who in turn reports directly to the Supervisory Board's Audit Committee. The CEO is ultimately responsible for the Corporate Compliance Program, which is regularly updated and subject to strict internal controls. Moreover, mandatory training is organized for employees on compliance issues at regular intervals (most recently, the new Corporate Compliance e-learning program introduced in 2016). No substantial risks were identified in 2016 due to the active countermeasures taken to mitigate risk at an early stage and to eliminate risk sources, e. g. by realigning business processes.

Other risks

KUKA Group continuously monitors other risks and mitigates these to the greatest extent possible. There is no evidence of environmental risks from operational activities, since the company does not use hazardous materials. The Group makes use of buildings and properties for its business operations, some of which it owns. 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. Please refer to page 70 for information about material agreements subject to conditions related to a change of control.

Summary

Overall, KUKA Group's named risks relate to the business performance of the divisions and financial risks associated with currency exchange rate fluctuations and corporate financing. The Executive 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

Development of the global economy is generally positive with the growth trend continuing. According to the International Monetary Fund (IMF) the global economy grew 3.1% in the past year. Compared with growth in 2015 this represents a stable trend (2015: 3.1%).

The IMF expects the global economy to expand again more rapidly in 2017 and has forecast economic growth of 3.4%. This increase is likely to be driven by the higher growth in some major industrialized countries and specifically by economies which underwent a sharp decline during 2016.

According to the IMF, the overall economy in Europe is set to continue growing, although the rate of growth is expected to decrease slightly. Following a plus of 1.7% in 2016, growth of 1.6% is expected for 2017. Behind this development are deflationary general conditions and uncertainties in advance of elections in various member states. Moreover, the coming departure of the United Kingdom from the European Union makes economic planning difficult and thus hinders investment. The IMF is predicting the trend in Germany, the most important single market for KUKA, to be similar to that in the rest of Europe. Following an increase of 1.7% in 2016, growth of 1.5% is expected in 2017.

For the USA, the IMF has slightly raised its growth forecasts for 2016. According to the experts, the new US Government's announcements concerning lower corporate taxes and investment in the infrastructure should be a boost for the US economy. In actual figures, the IMF is anticipating 2.3% growth during 2017. The North American market is the second largest sales market worldwide for KUKA Group.

Among the larger economic markets, the IMF still regards China as likely to be one of the largest motors for growth of the global economy during 2017. However, in comparison to the year before, the pace of growth is anticipated to diminish further. The reasons lie in lower investment and the transition from an export-driven economy to demand supported to a greater extent by the internal market. The IMF forecasts growth of 6.5% for China in 2017 (2016: 6.7%). China was KUKA's third largest single market worldwide in 2016.

IMF expectations for the most significant global markets from KUKA's viewpoint:

Economic growth

in %	2016	2017	2018
Germany	1.7	1.5	1.5
Eurozone	1.7	1.6	1.6
USA	1.6	2.3	2.5
China	6.7	6.5	6.0
Developing/emerging countries	4.1	4.5	4.8
World	3.1	3.4	3.6

Source: IMF, January 2017

Global drivers of growth in robot-based automation

The growth prospects for automation and robotics remain high. In its most recent study, the International Federation of Robotics (IFR) anticipates corresponding expansion of the global robot market and greater investment in the automation of production systems. Efficiency increases, improved product quality, higher unit quantities, greater product diversity and flexibility in particular are decisive factors for manufacturing companies continuing to raise the level of automation.

Growth opportunities for KUKA

1) China and other emerging economies

Robot density, and thus the degree of automation, is much higher in industrial countries than in the developing and emerging economies. In other words, the growth potential of robot-based automation on these markets is much higher than in the industrialized countries. The growth potentials in the emerging markets affect the automotive sector as well as the various segments of general industry. The international automotive industry is investing predominantly in these countries in order to profit from lower wage costs, but also in order to be able to react flexibly to local customer requirements. Robot-based automation is an important element in this context. For decades it has been the standard for some production stages – body-in-white manufacture, for example. Local car manufacturers in the emerging markets are also investing in automation in order to match up to the rising quality requirements and to enable them to export more of their vehicles in the medium-term future.

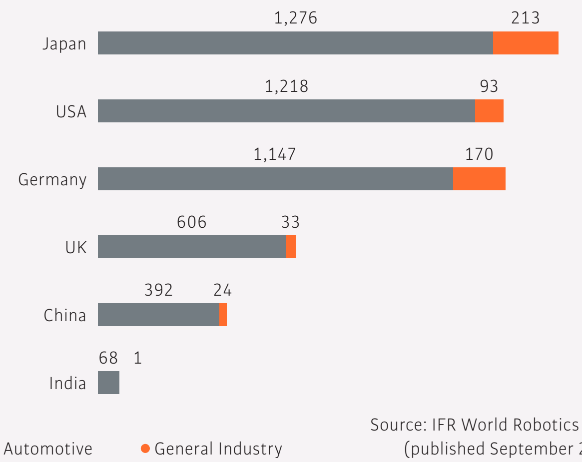
At the same time, wages and salaries are sometimes rising by 10% or more each year in the emerging economies, and this generally poses great challenges to companies that manufacture locally. Automation solutions can assist in cushioning against this rise in costs. The growth of automation in general industry is exposed to the same factors as the automotive industry: increased cost pressure at the same time as rising product quality requirements. In recent years the Chinese robot market grew disproportionately and is now the world's largest sales market. According to the latest study by the IFR, the number of robots sold per year has risen by more than the factor 10, from just under 8,000 (2008) to approximately 90,000 in 2016. The robots installed in China are made almost exclusively by international manufacturers. However, according to the IFR, Chinese robot suppliers have become increasingly important and are set to increase their market share further in the coming years. The new market players are also supported by government programs.

KUKA sees the Chinese robot and automation market as a core element of its future growth strategy and is therefore expanding its market presence in China. At the end of 2013, a robot assembly plant was opened in the Greater Shanghai area, with production there now already meeting a large proportion of local demand. This plant is to increase its capacity in 2017. In addition, KUKA Group's workforce in China rose from 1,101 employees (December 31, 2015) to 1,289 (December 31, 2016). This has afforded KUKA greater local presence, increasing its proximity to the customer and allowing it to act with greater flexibility. The customers profit from much shorter delivery times and faster response times. Through Midea's support, KUKA expects to gain an even greater market presence in China over the coming years with positive stimuli for the Group's growth.

2) General industry

Compared with the automotive industry, the robot density (number of robots per 10,000 employees) in general industry is still relatively low (see graphic on page 63). On average, the automotive industry's robot density is roughly eight times that found in general industry. Above all, it is high cost pressure, rapidly changing markets and customers' requirements as well as growing demands for quality which necessitate production that is flexible and efficient for companies to remain competitive. This is why the sales potential of the automation sector is very high. For the electronics (computers, communications and consumer goods), logistics/e-commerce, metal, machine tool and food industries in particular KUKA is expecting a significant increase in investment in automation solutions and robots in the coming years. KUKA is following a strategy of expanding its market shares in general industry overall and pushing expansion specifically in the sectors referred to above.

Robot density in automotive and general industry
Robots per 10,000 employees



Source: IFR World Robotics 2015 (published September 2016)

3) Automotive

The international automotive industry has a decisive impact on robot sales development, as it accounts for around 35 to 40% of the industrial robots sold annually. In the mature manufacturing regions such as Europe, the United States and Japan, growth potential is driven mainly by the need to modernize or upgrade existing production systems. Increasingly, however, production operations and processing stages are changing where at present there are relatively low numbers of robots being employed. Car manufacturing and sales volumes will continue to rise worldwide. According to estimates released in October 2016 by PWC/Autofacts, the annual number of cars manufactured will rise from some 88.2 million vehicles in 2015 to 107.3 million vehicles in 2020. KUKA is not directly dependent on the number of vehicles built, yet the range of models of the manufacturers is increasing with car sales. The manufacturers must therefore invest in new production systems and in making existing facilities more flexible in order to allow this growth to be generated in the most efficient way possible. KUKA is therefore expecting, as predicted by the IFR, that the investments of the car makers in automation will rise further, but accompanied by lower growth rates than in general industry. In addition to the continuing increase in model diversity, the drivers of this trend are the decrease in product life cycles of existing vehicle types and an increase in model platforms without the risk of forfeiting efficiency. Moreover, local car manufacturers from emerging and developing economies are increasingly investing in automation in order to raise the quality of their vehicles and so further their exports to the industrialized nations.

4) Digitization and Industrie 4.0

Industrie 4.0 is the next stage of industrialization, in which automated production technologies, mechanical engineering and intelligent IT systems are networked. This networking will lead to smart factories, characterized by versatility, resource efficiency, ergonomic design of workplaces and the integration of customers and business partners in business and value creation processes. As an automation company, KUKA is playing a central role in the practical implementation of Industrie 4.0. Industrie 4.0 is creating the basis for manufacturing high-quality one-off products with the advantages of series production. Traditional manufacturing is being superseded by the flexibility of new technologies. It is all about the interoperability of systems, one of KUKA's strengths: hardware and software all from one source. This is an important competitive advantage for our customers since production sequences can be better coordinated by networking. The robot is to serve as the link between IT and production and between humans and technology. The robot will assist them and take over the monotonous or physically demanding work, while the humans will perform challenging and creative tasks. In Austin, Texas, KUKA has set up a new IT site which connects robots and logistics solutions to the cloud, the web, mobile platforms and other IT technologies. This site is also concentrating on developing our software applications further and pushing ahead with the development of our skills in the area of data analytics. To further enhance KUKA's power of innovation, we have invested in start-ups such as Nebbiolo in Silicon Valley and Roboception in Munich, as well as setting up the software platform connyun. We have also entered into strategic partnerships, for example with Salesforce (digitization of the value chain and improvement of all points of contact between companies and their customers).

Company-specific factors

Summary

Given the current economic forecasts and general conditions, KUKA anticipates high demand in fiscal 2017, particularly from China and North America. A slight increase in demand is expected in Europe as a whole. From a sector perspective, a positive development is predicted for the general industry market. Demand in the automotive industry is expected to remain stable, now that customer investments have already risen considerably in recent years, with positive stimulus in the USA and China.

There is a detailed report on the currency influences in the notes, starting on page 78. In the case of Systems, a higher US dollar/euro exchange rate has a positive impact on the key financial indicators because the North American sales market is very important for this business division. For Robotics, the development of the yen/euro exchange rate is particularly important. A weaker yen/euro exchange rate has a negative effect on Robotics because the main competitors predominantly manufacture in Japan. For Swisslog, the appreciation of the Swiss franc will have a slightly adverse effect on operations, because the cost share of this division in Switzerland is slightly higher than the revenue share.

Anticipated business development at KUKA

Summary	2016 result	2017 outlook
Sales revenues	€2,948.9 million [1]	~€3.1 billion
EBITDA margin	7.0%	virtually stable
EBIT margin	5.6% [2]	> 5.5% [3]
Net income for the year	€86.2 million	virtually stable
Investments [4]	€99.6 million	rising
Free cash flow	€ -106.8 million	rising
Dividend per share	0.50 €	constant to rising

[1] Including the divested Systems aerospace business segment in the USA (~€100 million)

[2] Before purchase price allocation for Swisslog (€10.8 million) and before extraordinary expenses relating to the takeover by Midea (€28.0 million)

[3] Before purchase price allocation for Swisslog and growth investments (e.g. Industrie 4.0)

[4] Before financial investments

Definitions:

virtually stable: absolute change compared to prior year 0 – 5% or 50 basis points

declining/rising: absolute change compared to prior year >10%

Sales and EBIT margin

On the basis of the current general conditions and exchange rates, KUKA is expecting sales revenues of around €3.1 billion in fiscal 2017. Based on the current economic environment and the anticipated development of sales, KUKA Group expects to achieve an EBIT margin of more than 5.5% before purchase price allocation for Swisslog and also before growth investments amounting to about €45 million. Investment relates, for example, to Group-wide issues such as digitization, Industrie 4.0, general industry and China. KUKA is expecting these investments to open up additional areas of growth for the Group in the coming years, which should be reflected in higher sales revenues. The expenditure for purchase price allocation at Swisslog should amount to about €10 million in 2017 and thus remain at the level of the previous year.

Net income

In the 2016 fiscal year, KUKA Group generated net income for the year of €86.2 million. In 2017, the envisaged rise in revenues should have a positive effect on net income, but the planned increase in growth investment should have a negative effect. KUKA is therefore expecting a relatively stable development of net income at Group level in 2017, as well as at AG level before growth investment.

KUKA Aktiengesellschaft's result in the separate financial statements depends primarily on the profit transfers of the German subsidiaries and on dividends from subsidiaries.

Research and development/investments

The total expense of research and development (R&D) can chiefly be attributed to the Robotics division and, to an increasing extent, to topics concerning the whole Group. At Systems in particular, research and development activities are mainly conducted as part of customer projects. The high demand for our robots and solutions is based predominantly on their competitive advantages in terms of innovation, quality and benefit to customers. The spending on R&D is to rise in 2017 in order to safeguard and expand these competitive advantages in a sustainable way. Overall, KUKA plans to strengthen the R&D segment regionally. Correspondingly, new sites are being opened and existing sites expanded. Spending by the Robotics division will mainly focus on extending the product portfolio, developing applications, new software solutions and measures to boost the efficiency of existing products. We are planning to extend and broaden our product portfolio throughout the Group in the areas of digitization/Industrie 4.0 and mobility so as to remain a leading innovator in automation and be capable of serving the rising customer demand for such products. KUKA is budgeting for around 5% to be spent on research and development in 2017 (2016: €126.6 million).

Free cash flow

KUKA Group's free cash flow is primarily generated from operating profits and the development of working capital in the Robotics, Systems and Swisslog divisions. Based on the current general conditions and the budgeted sales growth, KUKA Group expects a significant improvement in free cash flow before financial investments in 2017.

Dividend

The Executive and Supervisory Boards will recommend to shareholders at the Annual General Meeting on May 31, 2017 that a dividend of €0.50 per share should be paid for 2016.

For fiscal 2017, KUKA plans to maintain its dividend and possibly increase it slightly, allowing for the general conditions at the time.

Internal control and risk management system

Basic principles

Pursuant to section 289 para. 5 and section 315 para. 2 no. 5 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 "Opportunities and risk report" on page 56 et seq.). 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 internal control system focuses on organizational implementation of management decisions made to ensure the effectiveness and efficiency of business operations (including the preservation of assets, which includes preventing and exposing asset misappropriation), adherence to generally accepted accounting principles and the reliability of internal and external accounting and compliance with the legal provisions relevant to the company.

The objective of the ICS is to obtain sufficient certainty using the implemented controls and to be able to monitor and manage risks to ensure 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 Executive 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.

For the Group's German companies, the Shared Service Center of KUKA Aktiengesellschaft is responsible at a central level for accounting and human resource operations.

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 guidelines 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 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 combined management report. At KUKA Group, these include, in particular:

- Identifying the main areas of risk (see "Opportunities and risk report" on page 56 et seq.) 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 Executive 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 combined 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 authorized 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;

- Implementation of the control requirements to be met by the accounting-related ICS is defined and monitored 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 Executive 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 Executive Board of KUKA Aktiengesellschaft issue and sign a responsibility statement at mid-year and year-end (see page 128), by which they confirm that they have adhered to the prescribed accounting standards of KUKA Group and that their figures give a true and fair view of the net assets, financial position and results of operations of the Group.

The elements of the ICS relevant for financial reporting are evaluated by an auditor to determine their effectiveness as part of a risk-oriented audit approach.

In its meetings, the Audit Committee of the Supervisory Board regularly reviews the effectiveness of the accounting-related internal control system. The Supervisory Board therefore continuously obtains an appropriate view of the Group's risk situation and monitors ICS effectiveness. In so doing, the Executive 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 guidelines.

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 289 para. 4 and section 315 para. 4 of the German Commercial Code (HGB) including accompanying explanations

The disclosures in accordance with takeover law required by sections 289 para. 4 and 315 para. 4 of the German Commercial Code (HGB) are presented as of December 31, 2016 and explained in the following.

Composition of subscribed capital

As of December 31, 2016, 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

KUKA Aktiengesellschaft has granted the company's Executive Board members and other selected executives from Group companies the right to participate in so-called "phantom share programs", i. e. virtual share programs, as per the terms of their individual contracts for the period up to and including 2016. The phantom share programs are part of the performance-based compensation system for executives and have been aimed at sustainably increasing the enterprise value. Each of the programs has a term of three years. The payout at the end of the term depends on the development of the share price and on the change in enterprise value during the term of the program. The phantom share programs stipulate that at the end of the term of the respective program, Executive Board members must apply 25% of the gross sum paid out toward the purchase of KUKA shares until a predetermined holding volume is reached. For the programs established to date, the holding volume amounts to 50% of the fixed annual remuneration of the executive in question. Shares acquired outside the phantom share program also count towards the holding target. The holding obligation of the Executive Board does not end until the participant leaves KUKA Group. In the context of the Midea takeover bid, the Executive Board was relieved of its holding obligation by the Supervisory Board on June 25, 2016 in relation to the shares currently held.

The Executive Board is not aware of any other restrictions that would affect voting rights or the transfer of shares.