

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, communicates and monitors the individual risks identified and determines the aforementioned top 10 risk overviews or risk exposure overviews. The head of risk management resides within KUKA Aktiengesellschaft's Group controlling department, which reports directly to KUKA Aktiengesellschaft's CFO. 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, initiates 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 62 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	
	2014	2015	2014	2015
in € millions				
Legal risks	15.2	6.5	2.9	0.4
Economic risks	16.8	51.2	1.7	2.8
Total for the Group	32.0	57.7	4.6	3.2

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 acquisition of Swisslog Group and also by the expansion of the business activities of the existing divisions (Robotics, Systems).

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 10million	10 to 25%
High	€10 to 20million	25 to 40%
Very high	over €20 million	over 40%

Please refer to the notes, starting on page 76, for details regarding the precautionary balance sheet measures for the identified risks.

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.

Legal and economic risks KUKA AG/Holding

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.

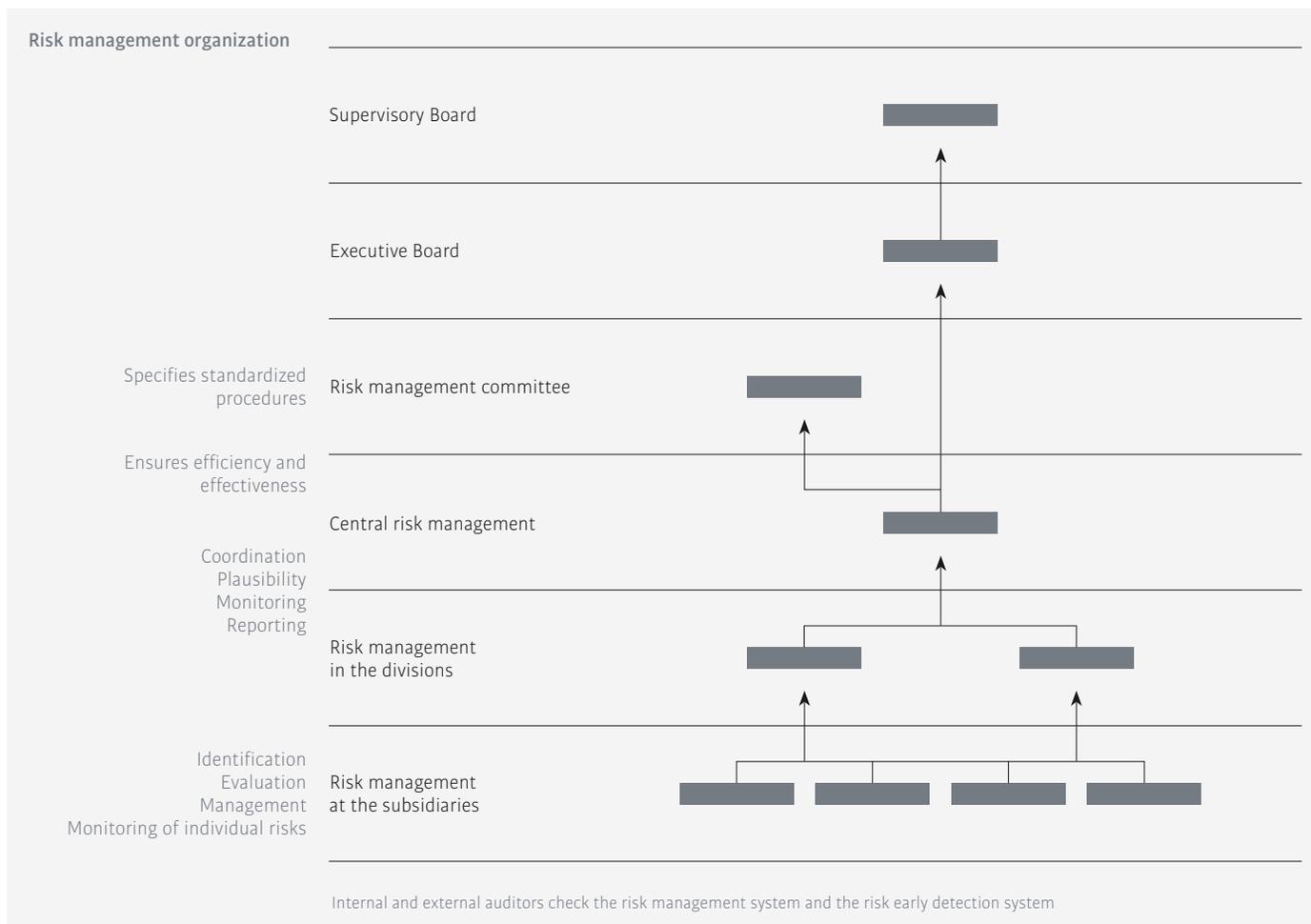
Standard general contracts are used whenever possible to cap legal risks. The Group's legal department supports the operating companies to help limit risks associated with in-house contracts, warranty obligations and guarantees as well as country-specific risks such as the lack of patent and brand protection 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.

Risk exposure KUKA AG/Holding

in € millions	Worst case	Expected risk value
Legal risks	0.7	0.4
Economic risks	0.0	0.0
Total for KUKA AG/Holding	0.7	0.4

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%).



Operational risks and opportunities in the divisions

KUKA is exposed to the cyclic 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 oligopolitical 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 2015. 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 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 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

in € millions	Worst case	Expected risk value
Legal risks	0.0	0.0
Economic risks	20.0	0.0
Total for Robotics	20.0	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 very high (over 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 suppliers. 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 soon have to invest in new production lines or upgrade their existing assembly lines.

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 participated in this growth again in 2015. 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. Current examples are to be found in the aerospace industry, from which new orders were again received in 2015. Although this represents an opportunity to penetrate new markets, it also entails risk, above all in relation 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

in € millions	Worst case	Expected risk value
Legal risks	4.6	0.0
Economic risks	19.2	-0.3
Total for Systems	23.8	-0.3

The assessed potential damage associated with all individual risks is low to medium (to €10.0 million) and the likelihood of occurrence is low to medium (to 25%).

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

in € millions	Worst case	Expected risk value
Legal risks	1.2	0.0
Economic risks	12.0	3.1
Total for Swisslog	13.2	3.1

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 %).

Financial risks

One of KUKA Aktiengesellschaft's primary tasks is to coordinate and control the Group's financing requirements and to ensure that KUKA remains financially independent. With this goal in mind, the holding company optimizes the Group's financing and limits its financial risk via the Group's standard treasury reporting system. In addition, liquidity risk is reduced for the Group as a whole by closely monitoring the Group's companies and their management of payment flows.

Over the course of the past few years, several measures have been implemented to strengthen KUKA Group's solvency. One of these was to restructure the company's debt with respect to time to maturity and the type of financing instruments used. In 2015, these include the conclusion of an extended syndicated loan, initial conversions of the convertible bond and the new issue of a promissory note loan in two tranches. Please refer to the "Explanation of items in the financial statements", "Financing", page 107, for further details.

The syndicated senior facilities agreement, which runs until 2020, contains the usual covenants. A fundamental risk associated with this type of covenant-based financing exists when business performance is significantly below plan and the resulting earnings and financial situation precludes adherence to the defined limits. KUKA monitors adherence to these covenants monthly. The company complied with all covenants during the course of fiscal 2015. As of December 31, 2015, all ratios regulated by covenants were well within the contractually defined limits. Please refer to the "Explanation of items in the financial statements", "Financing", page 108, for comprehensive details about the syndicated loan and the extent to which the agreed credit lines have been utilized.

One risk that will also impact business performance after 2015 is the increasing fluctuation in currency exchange rates, especially in the case of the Japanese yen, the US dollar, the Chinese yuan, the Hungarian forint and the Swiss franc; for example, the evident devaluation of the yen in relation to the euro gives Japanese competitors an advantage. Transaction-related currency exchange risks are hedged using forward foreign exchange contracts. Details on the central currency management process are provided under "Financial risk management and financial derivatives" starting on page 109 in the Group notes. Currency translation risks, i.e. measurement risks associated with balance sheet items whose value has been converted from a foreign currency, 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). Internal guidelines govern the use of derivatives, which are subject to continuous internal risk monitoring.

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 continuously 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. The program did not uncover any substantial risks in 2015 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 68 for information about material agreements subject to conditions related to a change of control. The shareholder structure is periodically analyzed to assess the possibility of a takeover of the company.

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

In recent years, development among the major global economies has been only moderate, and in some cases has even declined. According to the International Monetary Fund (IMF) the world economy grew 3.1% in 2015. Compared with growth in 2014 this represents a slightly weaker trend (2014: 3.4%). The IMF sees the reasons for this decline mainly in the development of China, which is now concentrating more on consumption and services rather than growth driven through investment and production. In addition, the lower oil prices and initiation of a more rigid monetary policy in the USA have slowed down global growth. As in previous years, it is mainly the emerging and developing economies which have been the drivers of growth. The IMF expects the world economy to expand again more rapidly in 2016 and has forecast economic growth of 3.4%. Compared with earlier forecasts, this figure has been cut slightly by 0.2 percentage points.

The overall economy of Europe could probably benefit from the improved development of various countries once they have implemented measures to combat the financial crisis successfully. Also, the relatively low oil price in Europe and the expansive monetary policy of the European Central Bank should have a positive impact. Accordingly, experts anticipate stronger growth in 2016 than in 2015. For Germany, the most important single market for KUKA Group, the IMF is predicting a slightly higher growth rate of 1.7% for the current year. VDMA, the German Engineering Association, has also published a forecast for 2016 and expects zero growth of new orders in the engineering sector overall. The robotics and automation segment is forecast by VDMA to develop much better with a rise of 5%. For the USA, the IMF has slightly reduced its growth forecast for 2015. It is in particular the low oil price and altered monetary policy with the expected strengthening of the US dollar that are likely to affect general growth. In actual figures, the IMF is forecasting US growth of 2.6% for 2016. 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 exhibit the highest rate of growth during 2016. 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 domestic market. The IMF forecasts growth of 6.3% for China in 2016. China is KUKA's third largest single market worldwide.

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

Economic growth			
in %	2014	2015	2016
Germany	1.6	1.5	1.7
Eurozone	0.9	1.5	1.7
USA	2.4	2.5	2.6
China	7.3	6.9	6.3
Developing/emerging economies	4.6	4.0	4.3
World	3.4	3.1	3.4

Source: IMF (January 2016)

Global drivers of growth in robot-based automation

Investment in automation continues at a high level. In its most recent study, the International Federation of Robotics (IFR) forecast corresponding expansion of the global robot market. 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) 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 61). 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 electrical (3C), consumer goods, logistics, metal, machine tool and aircraft construction industries in particular we are expecting a significant increase in investment in automation solutions and robots in the coming years. KUKA is pursuing the strategy of expanding its market share in general industry overall and pushing expansion specifically in the sectors referred to above. With this in mind, the following customer segments are being specifically targeted for investment:

- 1) new products that satisfy specific customer needs,
- 2) building up manpower with specific expertise in the focal markets in general industry,
- 3) developing a sales structure supporting expansion in general industry, and
- 4) partnerships and cooperation agreements to strengthen our market position. The KR AGILUS family of robots is steadily being expanded in terms of reach, weight classes and capabilities so that these products can now also be offered to new customers from general industry and to existing customers for use in an extended range of applications. In the future, KUKA is for example planning to introduce new automation solutions and robot technologies in the logistics sector in order to help customers orient their logistics departments even better to the challenges posed by e-commerce.

2) Automotive

The international automotive industry has a decisive impact on robot sales development, as it accounts for around 35 to 40% of the articulated robots sold annually for industrial use. 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 January 2016 by IHS Automotive, the number of cars manufactured across the globe will rise to 89.8 million vehicles in 2016 and to over 100 million vehicles per year by the end of the decade. 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 accordingly invest in new production systems and in the flexibility of existing facilities 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 carmakers 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 countries.

3) 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 a smart factory, characterized by versatility, resource efficiency, ergonomic design 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. 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.

KUKA recognizes Industrie 4.0 as a trend development that will see smart automation concepts for the future come into being – the smart factory. The robot is to serve as the link between IT and production and between humans and technology. Humans are at the heart of the factory of the future. The robot will assist them and take over the monotonous work, while the humans will perform the higher-value tasks.

KUKA geared its activities early on to Industrie 4.0 and invested accordingly. One particular focus of this is the investment in KUKA Sunrise, its new software platform, which provides the basis for new applications. Moreover, a new IT site was established in Austin, Texas/USA, which is to focus on the further development of our software applications, data analysis and Industrie 4.0. We are continuing to analyze the possibilities for external growth through acquisition of or participation in companies that are capable of strengthening our market position in Industrie 4.0.

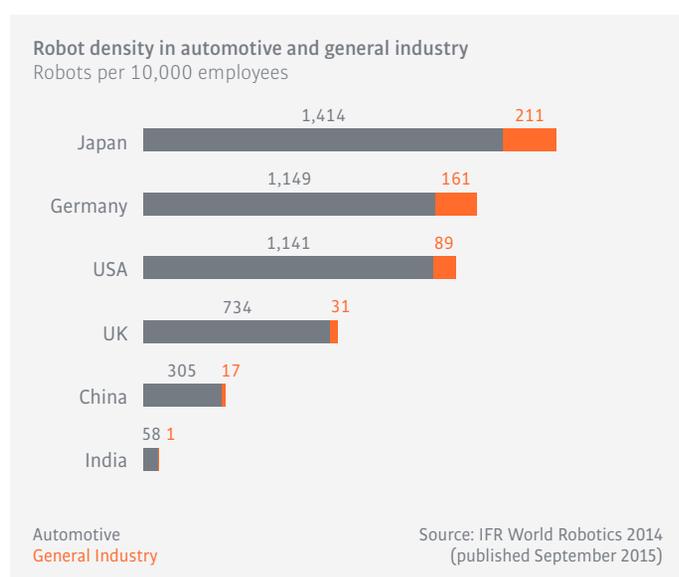
4) Developing and emerging economies

Robot density, and thus the degree of automation, is much higher in industrial countries than in the developing and emerging economies. The growth potentials in the developing and 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 because for decades it has been the standard for some production stages – body-in-white manufacture, for example. Local car manufacturers in the developing and 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 rising in some instances at a double-digit rate each year in the developing and emerging countries, which 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 benefits from the same factors as the automotive industry: increasing cost pressure with simultaneously rising product quality requirements.

In recent years the Chinese robot market grew disproportionately and is now already the world's largest sales market. According to the current study by the IFR, the number of robots sold per year has risen from just under 8,000 in 2008 to approximately 75,000 in 2015. The robots installed in China are made almost exclusively by non-Chinese manufacturers. But according to the IFR, Chinese robot suppliers will become increasingly important and will increase their sales output 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 has therefore expanded its market presence in China. At the end of 2013, a robot assembly plant was opened in the Greater Shanghai area, with production there already meeting a large proportion of local demand in 2015. In addition, KUKA Group's workforce in China rose from 696 employees (December 31, 2014) to over 1,000 (December 31, 2015). 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. KUKA will also focus on investments in China in the coming years through the expansion and equipment of its local sites with the appropriate resources.

Automotive customers have already significantly increased investments over the past few years. Demand in 2016 should therefore develop relatively stably altogether, with positive development in China and the USA. There is a detailed report on the currency influences in the notes, starting on page 76. In the case of Systems, a higher US dollar/euro exchange rate has a positive impact on the financial results because the North American sales market is very important for this business segment. For Robotics, the development of the yen/euro exchange rate is particularly important. A weaker yen/euro exchange rate has overall 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.



Company-specific factors

Summary

Given the current economic forecasts and general conditions, KUKA expects good demand in the 2016 financial year, particularly from the North America and Asia regions, and here especially from China. Demand in Europe is expected to remain relatively stable overall. From a sector perspective, general industry growth is expected to be positive. This is due in part to the low penetration rate of robot-based automation in some areas and in part to new robot types and technologies enabling the efficiency of production stages previously characterized by a low degree of automation to be improved.

Anticipated business development at KUKA

Summary	2015 result	2016 outlook
Sales revenues	€2,965.9 million	> €3.0 billion
EBITDA margin	8.7%	declining
EBIT margin	6.6%*/6.1%***	> 5.5%*
Net income for the year	€86.3 million	rising
Investments**	€107.0 million	rising
Free cash flow	€95.7 million	mid-double-digit million range
Dividend per share	€0.50	constant to rising

* Before purchase price allocation for Swisslog

** Excluding financial investments

*** Before purchase price allocation for Swisslog and excluding book profits from the sale of HLS and the Tools and Dies business unit

Definitions:

rising slightly/declining slightly: absolute change compared to prior year <10%
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 more than €3.0 billion in 2016. Both customer segments – general industry and automotive – and from a regional viewpoint, China and North America, should make a positive contribution to sales development. Given the current economic environment and anticipated sales development, KUKA Group expects to achieve an EBIT margin of more than 5.5% before PPA (purchase price allocation) for Swisslog. Compared with the EBIT margin before PPA for Swisslog in 2015 (6.6%), at present no book profits are scheduled from divestments, which in 2015 contributed about 50 basis points to the development of the margin. In 2016, the EBIT margin is likely to be affected by growth investment in the Group-wide development of solutions for Industrie 4.0, in general industry and in China. We are additionally expecting higher costs related to the development and launch of new products. The introduction of project lifecycle management software at Systems and ERP software to be used throughout the Group will result in similar costs in 2016 to those during 2015, but in subsequent years these will help make a considerable improvement in efficiency. The expenditure for PPA at Swisslog should amount to about €10 million in 2016 and thus be significantly lower than in the previous year.

Net income

In the 2015 fiscal year, KUKA Group generated net income for the year of €86.3 million. In 2016, the rise in sales and lower PPA expenditure should have a positive effect on net income. KUKA is therefore expecting an increase in net income for 2016. Adjusted for the PPA effect, KUKA also anticipates a rise in net income compared with the previous year. KUKA Aktiengesellschaft's result depends primarily on the profit transfers of the German subsidiaries and on dividends from subsidiaries. Altogether we are expecting KUKA Aktiengesellschaft to achieve a result at approximately the same level as the previous year.

Research and development/investments

The total expenditure on research and development can be attributed mainly to the Robotics division, since Systems conducts its R&D activities primarily in conjunction with customer projects. The high demand for KUKA robots and solutions is principally based on their competitive advantages in terms of innovation and quality. To safeguard and expand these competitive advantages sustainably, the spending on research and development will rise in 2016. Overall, KUKA plans to strengthen the R&D segment regionally. Correspondingly, new sites are being opened and existing sites expanded (e.g. Austin/USA and Budapest/Hungary). Spending by the Robotics division will mainly focus on Industrie 4.0, expanding the product portfolio, developing applications, new software solutions and measures to boost the efficiency of existing products. Overall, KUKA Group is budgeting for around €120 million (2015: €105.4 million) to be spent on research and development in 2016. Around 20 – 25% is to be capitalized and written down to schedule over three to five years. The capitalization ratio depends on the content of the R&D projects and may vary accordingly. While research projects are not permitted to be capitalized, projects with the main focus on development – if certain conditions arise – are to be capitalized in accordance with the applicable accounting rules. At the same time, Systems is planning to invest increasing amounts in solutions and technologies in order for the division to make a key contribution to defining the standards of future production technologies. In 2016, Swisslog will focus on developing its own products and press on with its collaboration with the rest of KUKA Group. KUKA Group is planning to increase overall investment in 2016. This will largely concern investments for the preservation of existing assets, the building of new facilities for promoting growth in general industry and the expansion of capacity.

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 free cash flow excluding financial investments in the mid-double-digit million range in 2016.

Dividend

The Executive and Supervisory Boards will recommend to shareholders at the Annual General Meeting on May 27, 2016 that a dividend of €0.50 per share be paid for 2015. KUKA's dividend policy is to pay out between 25 and 30% of net income to shareholders provided business performance is good and general conditions are stable. For fiscal 2016, KUKA plans to maintain its dividend and possibly increase it slightly, allowing for the general conditions at the time.