

**KUKA**



# Smart & Responsible

Sustainability Report 2018

incl. non-financial report



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# About this report

With this second Sustainability Report, KUKA AG is once again accounting for the company's economic, ecological, social and societal responsibility. Our target audience is comprised of our employees, customers and stakeholders as well as analysts and investors, suppliers, non-governmental organizations, politicians and authorities, and interested members of the public. We would like to inform the aforementioned parties about the measures we are taking to implement responsibility and corporate sustainability throughout our processes, products, the supply chain and towards our employees.

This report has been prepared in accordance with the GRI standards of the Global Reporting Initiative (GRI): "Core" option. In preparation for this, we determined the key sustainability topics for KUKA in an updated materiality analysis. For the Materiality Disclosures Service, Global Reporting Initiative Services reviewed that the GRI content index is clearly presented and the references for Disclosures 102-40 to 102-49 align with appropriate sections in the body of the report. The service was performed on the German version of the report.

According to the amended sections 289b et seq. of the German Commercial Code [HGB] (CSR Directive Implementation Act / CSR-RUG), publicly traded companies in Germany are obliged to publish a non-financial statement or a separate non-financial Group report. KUKA is complying with this obligation in the non-financial report within this document. The non-financial report can be identified by the gray pages and the additional labeling as such. The report was submitted to KUKA AG's Supervisory Board for examination and was approved. The text passages referring to the CSR-RUG are highlighted in color.

The reporting period corresponds to the 2018 financial year (January 1 to December 31). The information relates to all affiliated companies of KUKA AG that are included in the KUKA Annual Report. Any deviations have been identified as such.

## Editorial note

This report is available in German and English and was published on April 30, 2019. In the future it will also be published annually in April. Any references to employees, customers, etc. should be understood as referring to persons of all genders.

## Forward-looking statements

The Sustainability Report contains forward-looking statements on expected developments. These statements are based on current assessments and are naturally subject to risks and uncertainties. Actual results may differ from these statements.

# Foreword by the Executive Board

Dear Readers,

As a global automation company, we are at the heart of the digital transformation and feel we have the corporate and social responsibility to promote a sustainable future.

Sustainability is responsible corporate activity towards the environment, our employees, customers, investors and our social environment. In view of the dynamic changes taking place in the economy, environment and society, KUKA's products and solutions significantly contribute to the economic growth, technological progress and improved working conditions of its customers.

Technologies from KUKA are changing the way we work and robots present a tangible element in ever more digitized factories. While this creates many advantages for humans, it also comes with many challenges. For our customers, for example, it means that new concepts and business models in production are needed. Our employees have to collaborate to an increasing extent on a global and interdisciplinary basis. Another issue accompanying these advances are the uncertainties regarding application risks. Lawmakers are stipulating high safety standards for products as well as their use. KUKA is conscientiously implementing these specifications, including its suppliers in the process. Quality is very important to us.

We must also provide answers to questions that matter to society: should people be afraid of artificial intelligence, for example? We are involved in numerous associations and initiatives that deal with the future of the work environment. Our stance is clear: while artificial intelligence is very capable, it can never replace humans. Robots assist humans. We always put people first and offer concepts and solutions to make work easier for people.

More than 14,000 employees are working on the automation of the future. They contribute to long-term success through their sustainable actions and transparency towards business partners, customers and fellow colleagues. As an employer, we therefore see it as our responsibility to provide our employees with a good environment in which they can reconcile work and family and remain in good health. It is important to us that all people, regardless of their origin, religious affiliation, age or gender feel at home with us. We already have many concepts in place for this purpose which we are continuously refining.



Peter Mohnen

Sustainability is a firmly anchored aspect of our corporate strategy through which we have defined the company's direction, actions and objectives. Sustainability management is decentralized, however. The various divisions are responsible for the issues at hand. For example, Facility Management looks after our buildings, Procurement is responsible for purchasing and the supply chain, and Human Resources takes care of the culture and leadership values. This type of interdisciplinary collaboration is designed to allow us to identify opportunities and risks early on and develop appropriate strategies and measures to avoid the risks.

Our objective is continuous improvement in terms of our products, employees and also our ecological responsibility. Global megatrends such as digitization, individualization and an aging society as well as global challenges such as climate change, scarcity of resources and the fight against corruption provide our context.

The progress we've made worldwide in terms of our sustainability campaigns is summarized in this report. I wish you an interesting read, and thank you for your interest in the matter.

Yours truly,  
Peter Mohnen





Customized automation solutions

Intelligent solutions  
from a single source

## KUKA at a glance

KUKA is one of the world's leading automation specialists and aims to support its customers in the integrated optimization of their value creation by providing comprehensive automation and digitization know-how. In 2018, KUKA generated revenues of 3.2 billion euro (2017: 3.5 billion euro) with about 14,250 employees (2017: 14,135). The global technology group operates in more than 100 locations worldwide, in Europe, the Americas and Asia.

The company offers its customers everything they need from a single source: from the core component – the robot – to cells, turnkey systems and networking. Through its advanced automation solutions KUKA contributes to increased efficiency and improved product quality for its customers. Industrie 4.0 is bringing digital, networked production, flexible manufacturing concepts and logistics solutions, as well as new business models to the fore. With its decades of experience in automation, in-depth process know-how and cloud-based solutions, KUKA ensures its customers are well ahead of the competition. The strategic markets include the automotive, electronics, consumer, goods, e-commerce/retail and health-care industries.

The introduction of a new customer centric organization (CCO) commenced on January 1, 2018. KUKA is planning to make further changes to the organizational structure (see Annual Report, page 41). Until then, KUKA will continue to base its reporting on the Robotics, Systems and Swisslog divisions.

KUKA generated revenues of

# 3.2

billion in 2018

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“With its decades of experience in automation, in-depth process know-how and cloud-based solutions, KUKA ensures its customers are well ahead of the competition.”

KUKA Aktiengesellschaft, headquartered in Augsburg, is the Group's holding company and is responsible for managing corporate activities within the group of companies. The business activities of the divisions are operationally coordinated by the respective division heads, who in turn report to the Executive Board. The divisions operate globally and are supported by their regional subsidiaries in both their sales efforts and their assembly and field service work.



## Robotics division

The core component for automating production processes is provided by the Robotics division: industrial robots together with controllers and software. The broad product portfolio covers payload ranges from three to 1,300 kilogram. This enables KUKA to meet the various requirements of its customers optimally. Customers and employees can attend technical training and professional development courses in KUKA Colleges at more than 30 sites worldwide. Most robot models are developed, assembled, tested and shipped in Augsburg. The control cabinets are produced in two Hungarian plants, in Taksony and Füzesgyarmat. For the Asian market, KUKA produces robots and control cabinets at its Chinese plant in Shanghai. Additionally, KUKA is building a new robot production facility at the robotics park in Shunde.

KUKA Robotics is continuously expanding its range of products so as to offer customers from all kinds of sectors the solutions that are appropriate for them and to allow even small and medium enterprises to use robots economically. Research and development activities have an important role to play here. KUKA's new products and technologies open up additional markets and create new applications for robot-based automation.

Open networking and collaboration are the core ideas of Industrie 4.0, the production of the future. This paradigm shift is already underway today, indeed the company is consciously forcing the pace. After all, robots will play the key role in the factory of the future. By taking these measures, industrial nations will be able to expand their competitiveness and, at the same time, counteract demographic change. Industrie 4.0 is not a buzzword for us, but a sustainable investment in our future.



## Systems division

The Systems division offers custom-tailored complete solutions for automating manufacturing processes in the automotive industry. These include body production, the assembly of engines and transmissions, and also future-oriented business areas, such as electromobility with the development of charging assistants and battery module production systems. The portfolio covers the entire value chain of a system: from individual system components, tools and fixtures through automated production cells all the way to complete turnkey systems. Know-how lies in the bundling of experience and expertise in engineering, project management, process knowledge, commissioning and service for the automated production of vehicles.

The Systems division offers expertise in the design of flexible and efficient production processes and can guide its customers towards Industrie 4.0 and electromobility with future-oriented solutions. KUKA bundles this expertise of cell business and in-depth process know-how within the KUKA Industries business unit, which forms part of the Systems division. At its sites worldwide, KUKA Industries offers its customers innovative joining and machining technologies, laser welding and special welding processes, as well as all the process steps in the foundry sector and in photovoltaic and battery production. KUKA Industries is an expert in process- and customer-oriented cells and solutions, from the initial idea to production support, for customers in the automotive, consumer goods, energy & storage and electronics industries as well as many other sectors.

Markets in Germany and elsewhere in Europe are looked after from Augsburg, while the Greater Detroit area in the USA is responsible for the North /South America region and Shanghai in China handles the Asian market. Automated assembly lines and test rigs for engines and transmissions are designed at and supplied from the KUKA Systems sites in Bremen, Greater Detroit and Shanghai. In Toledo (USA), KUKA Toledo Production Operations (KTPO) manufactures the Jeep Wrangler for Chrysler under the terms of a pay-on-production contract. In 2018, investments were made for conversion of the production system; the start of production of the new Jeep Wrangler JT is scheduled for the second quarter of 2019.





## Swisslog division

With its Swisslog division, KUKA is tapping the growth markets of e-commerce /retail, consumer goods and healthcare in the field of intralogistics. Based in Buchs (Aarau), Switzerland, Swisslog serves customers in over 50 countries worldwide. From planning and design, through to implementation and service over the whole life cycle of a system, Swisslog provides integrated systems and services from a single source.

The Warehouse & Distribution Solutions (WDS) unit implements integrated automation solutions for forward-looking warehouses and distribution centers. As a general contractor, the division offers complete turnkey solutions, from planning through to implementation and service, employing data-controlled and robot-based automation in particular. Swisslog offers an Industrie 4.0 portfolio comprising smart technologies, innovative software and adapted support services to ensure that the competitiveness of its customers in the logistics sector is sustainably improved.

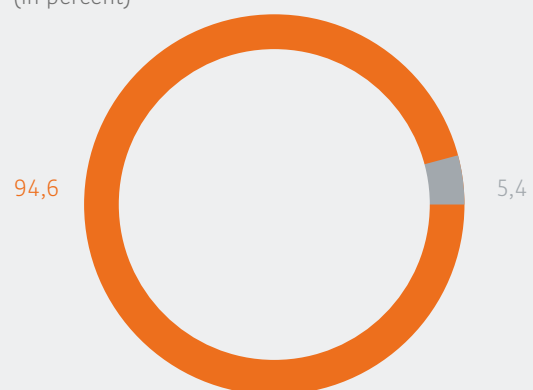
By combining Swisslog’s logistics solutions with the robotic automation solutions of the other divisions in the Group, KUKA offers new possibilities of flexible automation along the entire value chain.

The Swisslog Healthcare (HCS) unit develops and implements automation solutions for modern hospitals. The aim is to boost efficiency and increase patient safety. Due to process optimizations in the field of medication management during and after in-patient treatment, hospital staff have more time for patient care, increasing patient satisfaction. At the same time, the use of automation solutions from Swisslog Healthcare demonstrably reduces the incidence of medication errors.

## Shareholders

KUKA AG has a market capitalization of around 2.0 billion euro (2017: 4.8 billion euro). Its shareholders are institutional and private investors. At the end of 2018, 94.6 percent of the shares were held by Midea Group and 5.4 percent by other institutional and private investors. These numbers are unchanged from last year. Furthermore, KUKA is also financed through debt capital.

Shareholders  
(in percent)



- Midea Group
- Other institutional and private investors

## Our strategic focus markets

KUKA supplies automation solutions to its customers worldwide. Our most important markets are in Europe, the Americas and Asia.

# 3.2 billion

EUR revenues 2018

# 1898

founded in Augsburg

# 14,250

employees

More than

# 100

company locations worldwide



### Automotive

The automotive industry has always been of great significance for KUKA. It is a very important driver of technology and innovation. The automotive segment currently accounts for about 50 percent of sales revenues. KUKA will continue to grow around the world with its automotive customers and support them as a partner in automation and digitization.



### E-commerce/retail

Electronic commerce results in large quantities of varied goods being sent to consumers via goods distribution centers – product streams which in the long term can only be catered for through automation. The e-commerce segment is therefore an important sales market for smart logistics concepts combined with innovative, robot-based automation.



### Healthcare

KUKA offers a comprehensive portfolio for medical robotics applications: from X-ray imaging and radiation therapy to patient positioning and robot-based assistance systems for surgical procedures in operating rooms, diagnostics or as a supporting partner for rehabilitation measures.

Swisslog Healthcare bundles its expertise in logistics, pharmaceuticals and process optimization software and develops solutions that make medication management in hospitals safer and more efficient. Repetitive tasks in hospitals are mainly performed manually. Hospital staff are often required to deal with tasks away from patients, such as managing the supply of medication. This is where automation solutions can relieve the nursing staff and reduce medication errors.



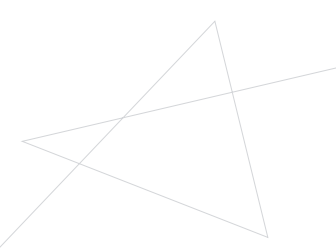
### Electronics

The electronics industry is one of the most varied sectors in modern industry. It encompasses the production of electrical household appliances, cutting-edge technologies such as solar cells, precision medical equipment and electronic automotive and aerospace components as well as industrial electronics. The most important submarket with the highest revenues is the 3C market (computers, communications and consumer electronics). The electronics industry will experience a significant rise in the number of new robots deployed in the coming years. The trend of recent years will thus continue unabated.



### Consumer goods

Robots have been efficiently and successfully supporting the production of fast-moving consumer goods (FMCG) for many years, especially in the food and beverage industry, but also in shoe or textile production, cosmetics and pharmaceuticals. New generations of robots that are sensitive and mobile, and thus able to work hand in hand with humans, are opening up new applications along the process chain.







Responsible corporate governance

Sustainably responsible



## Sustainability anchored in corporate management

As a German stock corporation, the statutory rules impose on KUKA AG a dual corporate governance system comprising an Executive Board and a Supervisory Board. The members of the Executive Board share the responsibility for company management. The CEO coordinates the work of the Board; he is responsible for representing and leading the Board in its cooperation with the Supervisory Board and its members.

The Executive Board of KUKA AG has two members. Until December 5, 2018, Dr. Till Reuter served as Chief Executive Officer (CEO), and Peter Mohnen served as Chief Financial Officer (CFO). As of December 6, Peter Mohnen assumed the role of CEO and Andreas Pabst the role of CFO. For information on the compensation of the Executive Board, please refer to the Annual Report, page 15.

The Supervisory Board of KUKA AG has twelve members pursuant to the Articles of Association. According to the German Co-Determination Act, six members are appointed by the shareholders and six by the employees. Four Supervisory Board mandates were held by women in 2018. The ratio of women on this board is thus 33.3 percent. The Supervisory

Board is elected every five years, the next elections being scheduled for 2023. The responsibilities of the Supervisory Board include the appointment of members of the Executive Board as well as their supervision and the provision of advice. The Chairman of the Supervisory Board, Dr. Andy Gu, coordinates the work of the Supervisory Board. Furthermore, the Supervisory Board and the Executive Board regularly inform themselves about key topics. The remuneration of the Supervisory Board is also outlined by KUKA in the Annual Report on page 15.

The Supervisory Board has formed five committees. An overview is provided in the Annual Report, page 10. Environmental and social issues impact many topics, and these are dealt with by the Supervisory Board, both in the Planning Committee and in the individual committees responsible. An explanation of the diversity concept is described in the Annual Report, starting on page 11.

In terms of corporate governance, KUKA strictly adheres to the guidelines of the German Corporate Governance Code. The objective is to continuously enhance the trust in corporate governance by combining sustainable corporate control and the necessary transparency.



## Sustainability management

For KUKA, sustainability means responsible corporate action towards the environment, our employees, customers, investors and our social environment. The goal is the continuous and sustainable further development of the company in view of dynamic changes in the economy, environment and society.

Various departments in the company monitor and analyze these changes in terms of how our business activities impact the corresponding issues and, conversely, how external trends impact KUKA. Accordingly, sustainability management is carried out by Procurement, Human Resources or Facility Management, depending on the issue.

The aim of our sustainability management is to identify opportunities and risks at an early stage in order to develop and implement appropriate strategies and measures. Changes to the legal framework conditions that affect the sustainability factors are also monitored and appropriate measures are taken as needed. Sustainability issues are regularly presented to the Executive Board and the divisions during management reviews in order to follow through on the goals and to initiate appropriate measures as required.

The sustainability report is prepared on behalf of the Executive Board and approved at an Executive Board meeting. After a preliminary review by the Audit Committee of the Supervisory Board, the final review is carried out by the Supervisory Board.

## Stakeholder involvement

KUKA is in regular contact with various social groups. These may at times have quite different perspectives and demands on the company and may impact KUKA's reputation. Our key stakeholders are customers, business partners, suppliers, but also investors and shareholders as well as media representatives, the public and our employees.

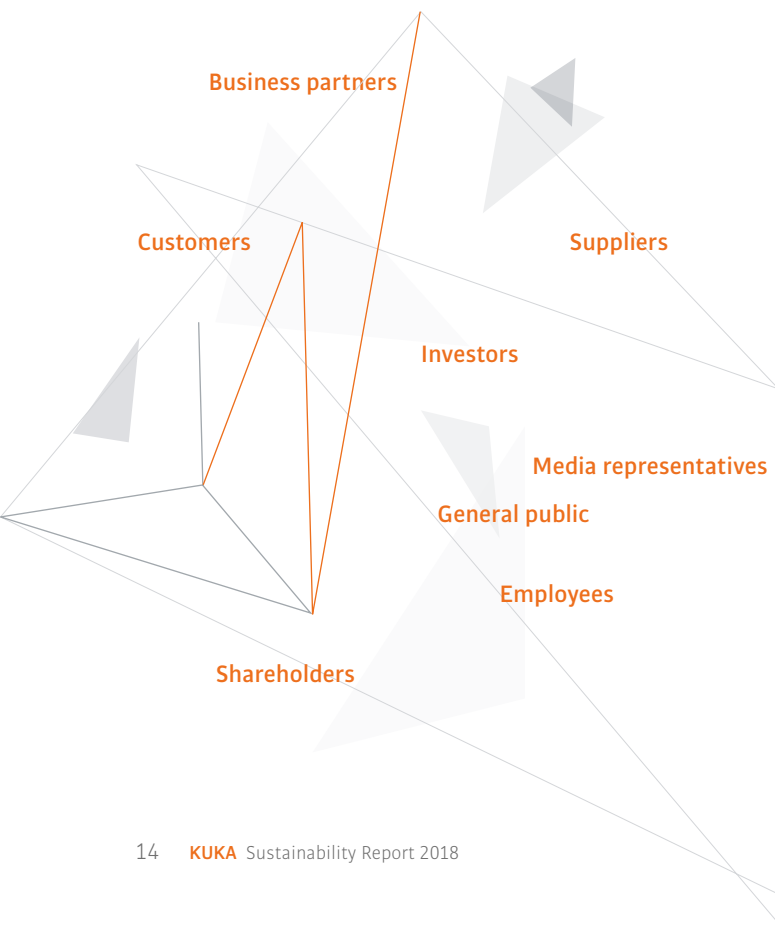
Communicating openly with these stakeholders is important to KUKA, because this forms the basis for mutual understanding and acceptance of the business decisions. The respective divisions are responsible for communicating with the various stakeholders.

We have been collaborating closely with various customers for many years, for example through implementing technical innovations in industrial production within the scope of joint projects. Purchasing is the point of contact for suppliers, HR for employees, and the Press department for media representatives. The Investor Relations department is in direct contact with investors and analysts. Sustainability rating agencies are served by the Management Systems department. KUKA has been involved in the Carbon Disclosure Project (CDP) since 2008, an organization that analyzes information relating to climate risks on a yearly basis.

The allocation of the added value in KUKA Group to the key stakeholders may be noted from the Annual Report.

The company is additionally involved in a number of organizations and initiatives, where we are engaged in various working groups. Within the German Mechanical Engineering Association (VDMA), these are, for example, the Corporate Responsibility and Public Relations working groups as well as various OPC UA working groups (Open Platform Communications – Unified Architecture). In addition, KUKA is a member of the following associations and organizations:

- BDI – Federation of German Industries, Department of Digitization and Innovation
- BVIK – Federal Association for Industrial Communication
- EUnited – European Engineering Industries Association
- euRobotics
- IEEE Robotics & Automation Society
- IFR – International Federation of Robotics
- Industrie 4.0 Platform
- RIA – Robotic Industries Association
- VDE – German Association of Electrical Engineering, Electronics and Information Technology
- VDMA – German Mechanical Engineering Association



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“The goal is the continuous and sustainable further development of the company in view of dynamic changes in the economy, environment and society.”

We keep in constant dialogue with our stakeholders.





## Risk management

The Executive Board has implemented a comprehensive corporate risk management system to systematically and continuously 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, and thus also risks resulting from sustainability issues, will occur and their potential impact on expected earnings (EBIT). 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.

The managers of the divisions and subsidiaries are directly responsible for the early identification, control and communication of risks.

Changes to the legal framework conditions that affect the sustainability factors are monitored and appropriate measures are taken as required.

## Impact on the economy, environment and society

KUKA's products and solutions make an important contribution to the economic growth, technological progress and improved working conditions of its customers.

For this reason, KUKA considers itself to be a partner to its customers and a responsible employer for its workforce and their families. KUKA protects the environment through the careful use of natural resources and an effective environmental management system. Applicable laws and regulations are always observed. KUKA takes this responsibility seriously and is also aware of any negative effects that may be associated with its own actions and which could have consequences for the economy, environment and society as well as for the company and its employees if they do occur.

## Updated materiality analysis

Sustainability stands for the equal consideration of economic, ecological, and social or societal aspects. In order to reconcile this with a corporate strategy, the issues relevant to the industry and the individual company must be identified. What matters here is not only what is important to the company itself, but what is important to our environment.

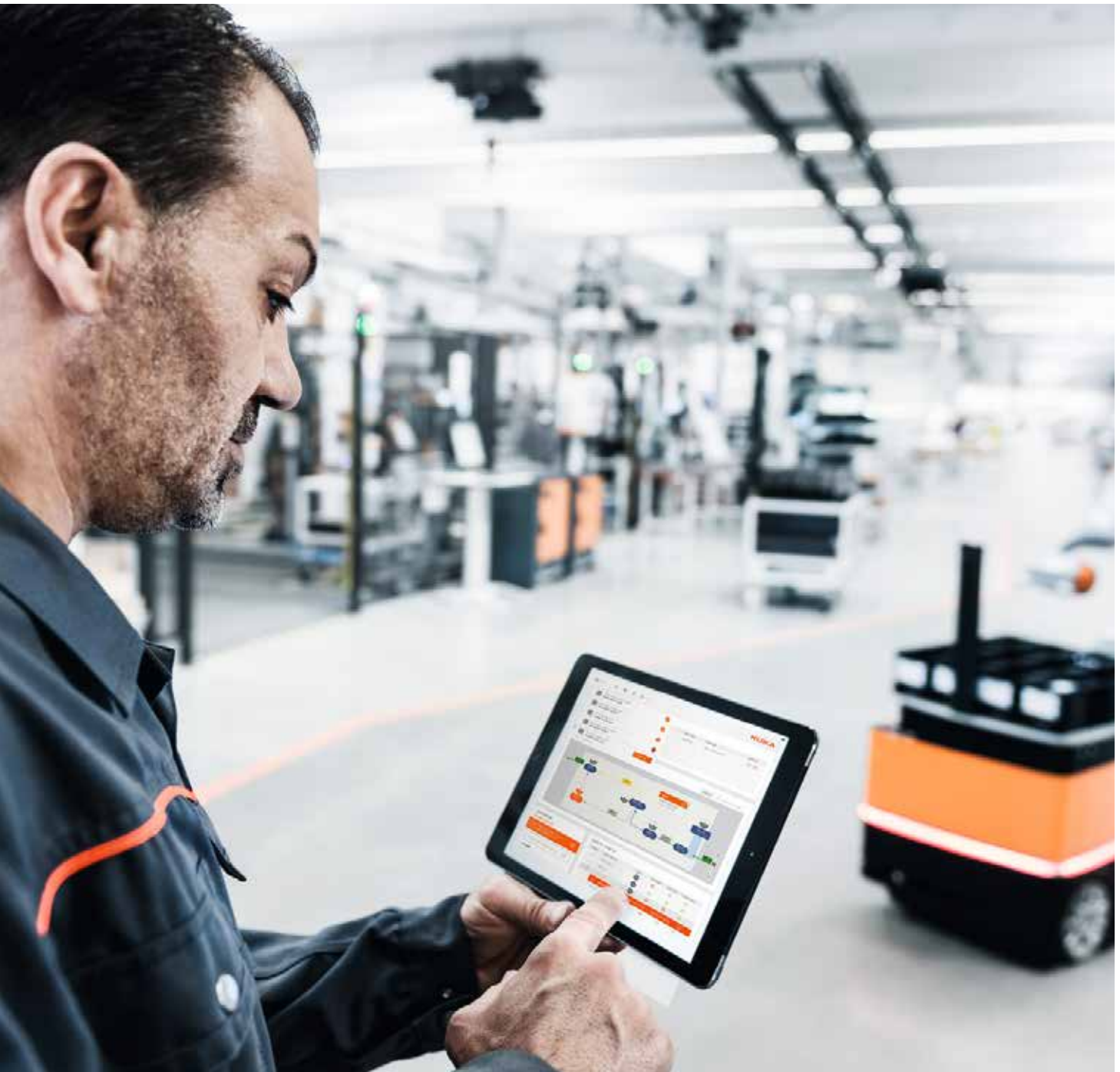
In October 2018, we intensively discussed these important issues for KUKA and created a corresponding list of 13 topics already identified in the previous year. The company adheres both to the recommendations of the Global Reporting Initiative (GRI Standards) and to the German CSR Directive Implementation Act (CSR-RUG). The aforementioned impact of our company on the environment, society, employees, human rights and the fight against corruption was taken into account throughout.

The 13 topics were discussed in a workshop from the perspective of what is important to the stakeholders, with due consideration of the experiences of the past year. Furthermore, possible negative impacts of the company's activities on the environment, employees, society and human rights were assessed, also in consideration of upstream and downstream stages of the value chain. The topics were then also assessed in terms of their potential impact on the company's performance, in particular on the net assets, financial position and results of operations over a prolonged period of time.

The three-dimensional perspective revealed slight shifts in terms of how the 13 topics are prioritized, which is as follows for KUKA:



<b>Material topics</b> prioritized by order of importance	<b>Concerns</b> according to CSR Directive Implementation Act	<b>Material impacts</b> internal and external to the company	<b>GRI topics</b>
Digitization/automation	Social concerns	Internal & external	<b>GRI 203</b> Indirect Economic Impacts, <b>GRI 418</b> Customer Privacy
Training and further education	Employee concerns	Internal	<b>GRI 404</b> Training and Education
Product safety	Social concerns	External	<b>GRI 416</b> Customer Health and Safety, <b>GRI 417</b> Marketing und Labeling
Leadership and values	Employee concerns	Internal	<b>GRI 402</b> Labor/Management Relations
Diversity	Employee concerns	Internal	<b>GRI 405</b> Diversity and Equal Opportunity
Employment	Employee concerns	Internal	<b>GRI 401</b> Employment
Procurement	(not relevant)	Internal & external	<b>GRI 204</b> Procurement Practices, <b>GRI 308</b> Supplier Environmental Assessment, <b>GRI 414</b> Supplier Social Assessment
Anti-corruption and fair competition	Anti-corruption	Internal	<b>GRI 205</b> Anti-Corruption, <b>GRI 206</b> Anti-competitive Behavior
Human rights	Human rights	External	<b>GRI 407</b> Freedom of Association and Collective Bargaining, <b>GRI 408</b> Child Labor, <b>GRI 409</b> Forced or Compulsory Labor
Sustainable/efficient products	Environmental concerns	External	<b>GRI 302</b> Energy
Occupational health and safety	(not relevant)	Internal	<b>GRI 403</b> Occupational Health and Safety
Resource-saving production	(not relevant)	Internal	<b>GRI 302</b> Energy, <b>GRI 303</b> Water, <b>GRI 306</b> Effluents and Waste, <b>GRI 307</b> Environmental Compliance
Social engagement	(not relevant)	External	<b>GRI 413</b> Local Communities



## Automation and digitization

# Responsible creation of the digital future





## Responsibility as innovation leader

With our products, we are a driving force behind automation and technological progress and are an innovation leader in Industrie 4.0. The global megatrends of digitization and automation are changing the working world. Job requirements and job descriptions are changing. New and often interdisciplinary qualifications are needed. Some occupations will become less important and new ones will evolve. Employees at our own company and also those of our customers will have to be prepared for this. KUKA is involved in various different committees to help shape the world of Work 4.0. For us, this development is centered on humans. The less humans are involved in repetitive industrial processes, the more systematically, efficiently and therefore more economically industrial companies can work. At the same time, humans are needed for other coordinating and supervisory tasks.

New trepidations related to application risks arise, and we have to make higher demands on the safety of products. The legislature has regulated the application safety of robot-based automation solutions, and KUKA conscientiously implements the corresponding requirements. This also applies in countries and regions where less stringent rules apply than in Germany. We therefore also involve our suppliers. Thus, we can ensure that all Group companies worldwide achieve the same standard in the market.

The KUKA Product Safety guideline serves to implement the product compliance requirements, including the safety aspects, and centrally regulates the necessary requirements, tasks, activities and responsibilities. The guideline is managed by the central Product Compliance department, which reports to the head of the Legal department.

Customers learn how to work safely with the robots and program them at our KUKA College.

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“The less humans are involved in repetitive industrial processes, the more systematically, efficiently and therefore more economically industrial companies can work.”

## Addressing social challenges

The Internet of Things and digitization enable new production methods. The digital transformation is one of the core issues for KUKA, and the company is operating in a dynamic and innovation-driven market environment that is constantly changing. Data are collected and analyzed, and processes are optimized as a result. This creates new business models.

KUKA is a leader in automating and digitizing the industrial world and is aware of the corporate responsibility that this role entails. The company is working intensively with researchers, politicians and customers to shape these developments. It is all about shaping industry and the world of work of the future.

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“KUKA is a leader in automating and digitizing the industrial world and is aware of the corporate responsibility that this role entails.”

## The changing world of work

Human beings often exhibit a great deal of apprehension when their social or technological environment is uprooted. Robot-based automation is also causing discussions. Some people wonder whether robots will eventually replace human labor entirely. According to a study by the World Economic Forum (WEF), more than five million jobs could be shed due to automation by 2020. But this development has another aspect to it, because new occupations with previously unfamiliar job descriptions may emerge, much like it was the case during other times of progress. In another study, the WEF estimates that 58 million new jobs will be created net by new technologies in the next five years.

People’s misgivings of losing their job to automation technologies is fueled by a misconception of what robots are actually capable of today. While it is true that robots are taking over individual tasks, they are not capable of carrying out all aspects of an occupation. Robots are a good addition to humans, because they can carry out tasks that are usually simple, repetitive or pose a health hazard: tasks that humans would prefer not to perform themselves to begin with, or which they cannot carry out physically. Robots are incapable of creativity, intuition and the ability to execute several tasks consecutively or to multi-task. Humans and robots thus complement each other.

The fourth industrial revolution “Industrie 4.0” increases the productivity of companies, thus ensuring their competitiveness and safeguarding their jobs. The digitization that goes along with Industrie 4.0 offers better training for the employees through improved learning and further education opportunities. Furthermore, the future of automation is in human-robot collaboration in many areas. In this case, humans are not replaced, but instead supported by the robot – a principle that has defined robotics from the beginning.

## Using digitization potentials and optimizing processes

To make the German economy fit for the future and prepare workers for the requirements of digitization, businesses and politicians must work together. We are using the Industrie 4.0 Platform, set up by the Federal Ministry for Economic Affairs and Energy and the Federal Ministry for Education and Research, to get involved alongside trade union representatives. Because we see it as our job to support the digital transformation of the industrial and working world and include as many people as possible.

To do so, KUKA is actively participating in various working groups on standardization, security of communication networks, legal issues surrounding Industrie 4.0 and new business models. Industrie 4.0 primarily requires common, manufacturer-independent and secure machine communication standards, as Industrie 4.0 is dependent upon the smoothest possible networking of machines, IT systems and people. KUKA was and is a committed advocate of uniform machine-to-machine communication standards – such as OPC UA – together with the German Mechanical Engineering Association VDMA. After about four years of preparation, these efforts were finally crowned with success in autumn 2018. Over 20 of the world's leading manufacturers of automation equipment have committed themselves to further developing this common standard to series maturity.

But for Industrie 4.0 to be successful, training and further education must also be continuously promoted and curricula must be revised regularly to keep up with changing practical requirements.

## Digitization makes new business models possible

Digitization has been a part of our everyday life for quite some time. Telephones were replaced by smartphones, street maps by navigation systems and you can check in digitally at airports. But in terms of the working world, many users are still rather guarded. But this is precisely where digitization offers enormous potential. The challenges for mechanical engineering are particularly significant, because technological products and solutions require additional resources.

KUKA's customers are faced with the challenge of manufacturing different products on one and the same production line. This requires flexibility and networked production processes. The use of so-called digital twins plays an important role here. In IT-based simulation systems, e.g. KUKA SIM from the KUKA subsidiary Visual Components, physical systems can be simulated before they are installed. This helps to optimize the manufacture of components and the construction of systems at an early stage and to detect errors already in the initial phases.

# 58

million new jobs are created through technology within the next five years\*

\*Source: WEF

Digitization has long been a part of our daily lives.



One example of such a new IT-based business model is the “SmartFactory as a Service”, which was initiated by MHP, Munich Re and KUKA in the summer of 2018, in Munich, Germany. The model factory has the potential to revolutionize production processes. To achieve this, the three partners are bundling their core competencies: the robot-based automated production is being developed by KUKA. MHP provides expert advice on digitization using the closed-loop manufacturing approach and deals with the system integration. Munich Re completes the business model with integrated risk management and innovative financing models. The common goal is to digitize the entire value chain, implement an integrated, high-quality data flow and merge previously unconnected areas and systems of the production development process. The “SmartFactory as a Service” is able to produce different product types in any batch size independently and flexibly, thereby meeting changing customer requirements with regard to individualized products.

Data management is an important aspect of future production. Digital information from different value-added components can lead to more efficient processes through the use of analytics tools. Using digital representations of products, processes and production systems, potential actions can be simulated and optimized until the process is adequately refined. And even though software will be playing an increasingly prominent role in production, mechanical engineering will still be the physical basis for the new cyber-physical system of Industrie 4.0. The decisive challenge for mechanical engineering is to bring both of these areas together as efficiently as possible.

At KUKA, digitization has long been a key factor in everyday working life.



## Counterbalance for shortage of skilled labor

Automation also helps solve one of the most pressing societal problems of our time – demographic change. Aging populations and ensuing skills shortages are already a major societal challenge, especially in industrialized nations. For example, the baby boomer generation will be entering retirement in the next few years. This development can be partly offset through automation. Robots will be able to take over many activities and simultaneously contribute to keeping valuable skilled workers healthy and on the job in the long term because they will be able to carry out dangerous and physically demanding work.

Due to the demographic shift, there are already bottlenecks in the supply of more and more elderly people in need of care. Developments in recent years have shown that shortages of caregivers may increase and possibly lead to a healthcare crisis that will be difficult to resolve. Service robots will be able to assist and take over logistics tasks such as disposing of medical waste, sorting food trays or managing medication. This will give nursing staff more time to look after their patients. Sensitive service robots will also become more prominent in households in the future and will be able to support the elderly. For example, they can perform fetching and carrying tasks and thus allow the elderly to sustain an independent life in their own home.

If, in the future, robots become everyday objects that simplify people's lives, then a new generation will grow up in a world enriched by the use of every kind of robot. This Generation "R" will no longer be afraid of interacting directly with robotic systems of all kinds – be they self-driving cars, automated logistics solutions, independent service robots or robots in retail. For them, dealing with robots will be as natural as our interaction with the Internet, smartphones and tablets is today.



### **\_Digitizing existing systems? No problem!**

New advances in digitization also allow existing systems that are intended to be included in a factory of the future to be connected to the cloud. For example, new concepts can be implemented in an existing, fully automated and networked production cell. In KUKA's production, a robot-based manufacturing cell of this type is employed in machining operations, for example. Not only is it used to improve the processes in place, but also for validation purposes and eventual market maturity. After all, the goal is for the cell to be used by customers as well.

Two machining centers are integrated into the manufacturing cells. The virtual world is thus connected to the physical world to create a comprehensive system which produces components for industrial robots. The connection to the digital world in the cloud is accomplished by networking the components. The cloud is used for authentication, data storage and processing, component management, predictive maintenance as well as for alarm and notification messages. All data are presented visually in configurable overviews, so-called dashboards. The specific needs of the different groups of employees are addressed through dedicated overviews and functions. This provides full visibility and control over the production process at all times and from anywhere.





### The data is secure

KUKA has been working closely with many customers for a number of years and attaches great importance to protecting its customers' data.

KUKA is committed to providing not only safe automation solutions, but also to setting standards in terms of data protection and information security. That is why KUKA has a uniform standard worldwide in its handling of corporate and personal data. These data are protected, for example, from unauthorized access and misuse, being processed in a CRM system that only a small number of authorized employees have access to. This has paid off: in the year under review, as too in 2017, no infringements of customer privacy or loss of customer data were reported to us.

For many years, KUKA has been ISO/IEC 27001 certified in compliance with IT baseline protection. In order to continue to meet our customers' requirements in the future and address new challenges of the Internet of Things and Industrie 4.0, KUKA is in the process of implementing the TISAX certification (Trusted Information Security Assessment Exchange), a mutually recognized auditing standard regarded by many original equipment manufacturers (OEMs) as a prerequisite for close and trusting cooperation.

## Digitization in our own company

Industrie 4.0 and digitization start in our very own company. Various projects have been initiated under the KUKA 2020 program, aimed at making corporate structures and employees fit for digitization. For example, the company now features a standard IT structure for the purpose of harmonizing processes worldwide.

KUKA is implementing the concepts of Industrie 4.0 in its own production, in part to optimize processes under real conditions from which customers will later benefit. By networking all components involved in the production process in the KUKA Cloud, data-based analyses can be drawn up, for example to keep track of energy consumption or maintenance intervals in production.

The corporate culture has also been further enhanced. KUKA employees communicate via the digital social business platform "Chatter" across all divisions and national borders, and are networked in work groups. This promotes global collaboration.

The My.kuka portal also gives customers digital access to KUKA products and solutions.

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“KUKA is implementing the concepts of Industrie 4.0 in its own production, in part to optimize processes under real conditions from which customers will later benefit.”



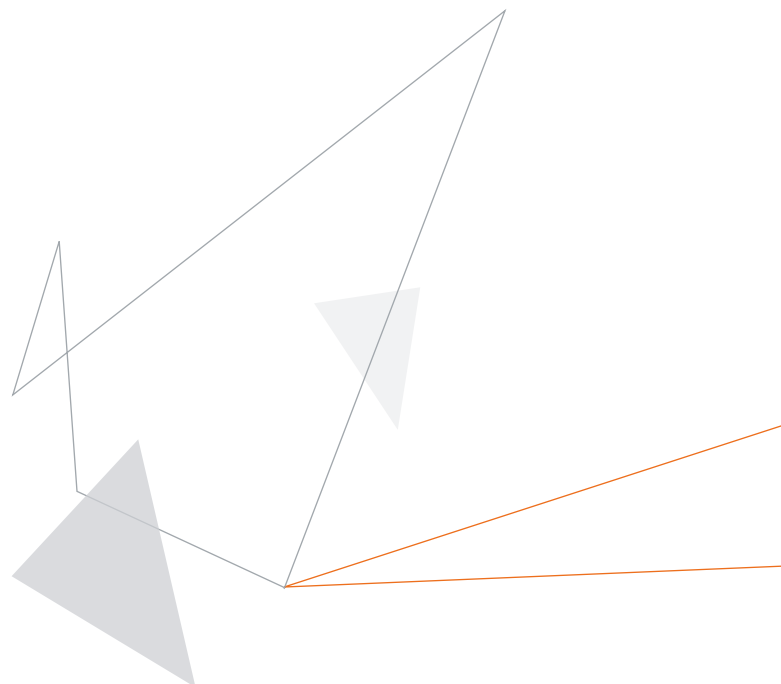
### Dual studies 4.0

KUKA dual degree students have developed a game in which humans can compete against a robot. The task: whoever can stack a tower of colorful blocks faster wins.

The game consists of a programmed robot training cell (Agilus KR 6 R700 sixx) and a table for the human opponent. To start the contest, the participant scans a QR code with the smartphone. This opens a website with the game and the contest starts.

The idea behind the project is to show how Industrie 4.0 processes can be improved when process data are evaluated. In the application made by the KUKA dual degree students, for example, this includes information about the game structure, winning stats and playing times. These are collected online. The game can thus be watched live. The project was independently planned and implemented by the students.

The difference between dual studies and regular studies is the significant practical aspect. During the first year of studies, the students are at the company full-time. The Bachelor's degree program of the respective discipline starts thereafter. The students are then back at the company during semester breaks. This means that, upon graduation, the students not only have a Bachelor's degree, but also completed vocational training as recognized by the Chamber of Commerce and Industry.





## Automation and digitization

# Product Safety and guidelines

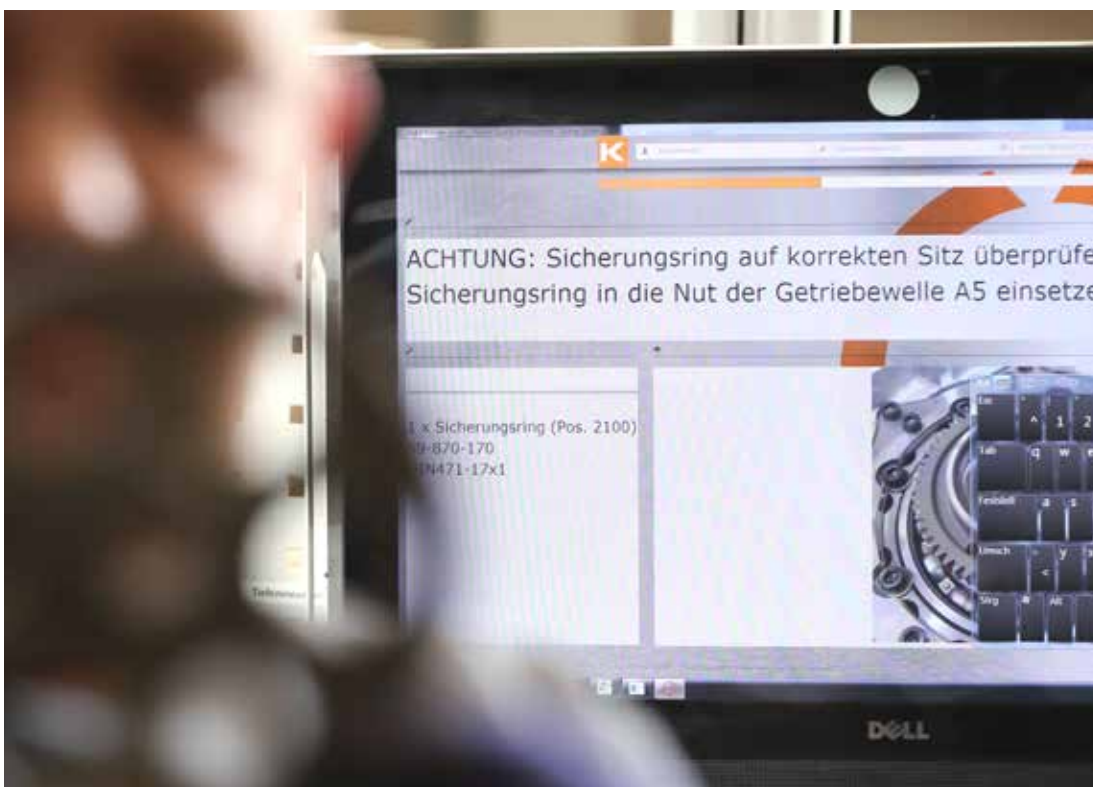
## Safety as the top priority

To make our products as safe as possible, quality is very important to us. Never once in the history of the company has there been a personal injury for which we as the manufacturer were responsible – a benchmark that mandates us to perpetuate this record. Be it in production, purchasing, quality management or in service and sales, KUKA is committed to safety. This continues to apply once our products and solutions are delivered because we want to make sure that a product can be safely used in line with its purpose. That is why KUKA already works vigorously during the development and design phase of new products on excluding product defects or operating errors to the best possible extent. All details and responsibilities are explained thoroughly in the KUKA Product Safety guideline.

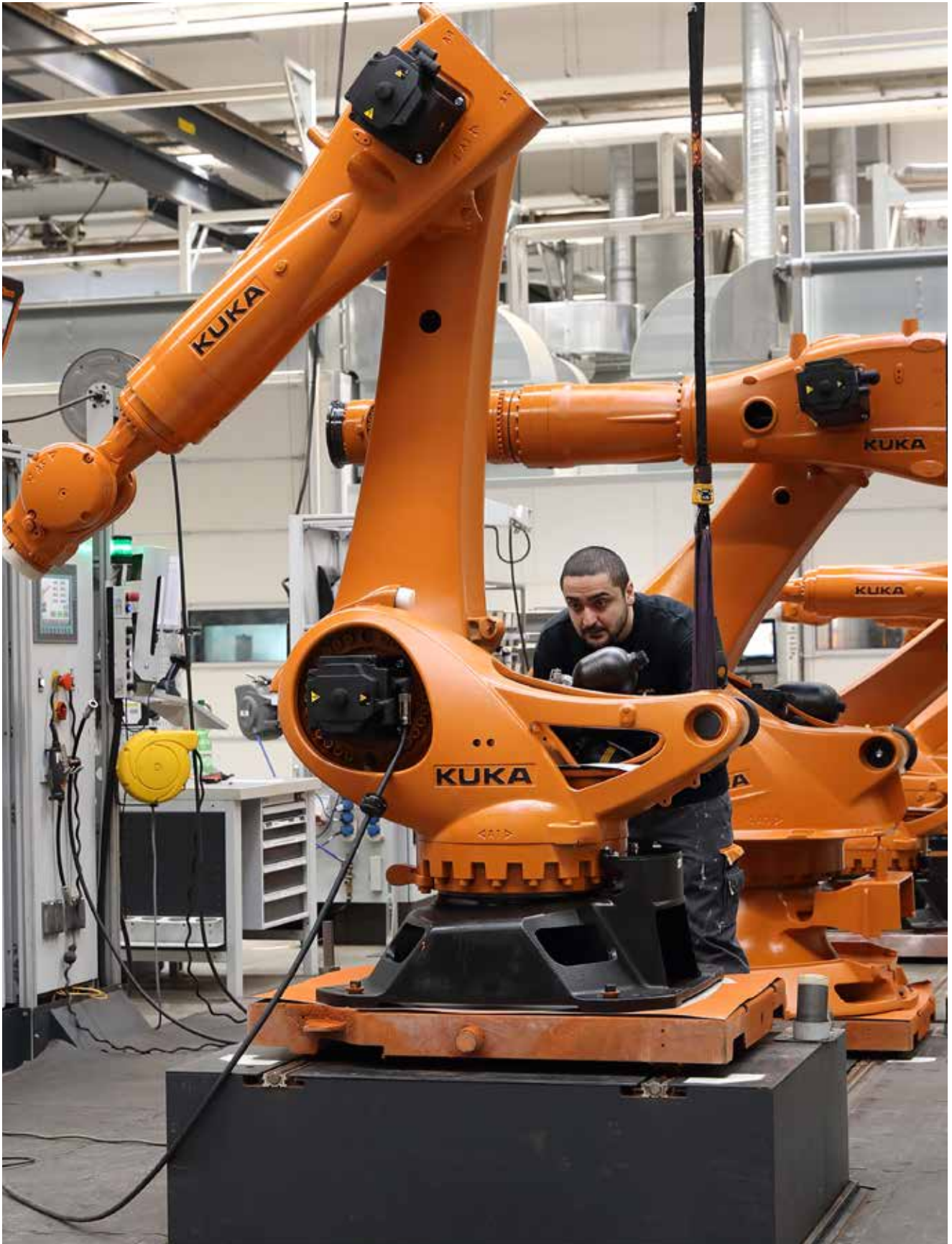
Worldwide product monitoring allows us to identify early on whether measures need to be implemented. In doing so, KUKA ensures that all products on the market are continuously monitored for their practical usability and that all scientific findings and empirical values are collected. The processes and procedures for suitable countermeasures are clearly defined and are also mandatory for suppliers of products or components.

“Be it in production, purchasing, quality management or in service and sales, KUKA is committed to safety.”

We apply the highest safety standards to our products.









## Guideline governs safety and labeling

The Product Compliance department at KUKA regularly monitored compliance with the Product Safety guideline during the year under review and found no objections. In addition to the safety aspects, the guideline also addresses various product labeling requirements, which are playing an increasingly important role in opening up new markets and eliminating trade obstacles in global supply chains. The product directives of the European Union, particularly the Machinery Directive, which applies to all industrial robots and production systems, play a key role in this, as do the market-specific certification and licensing requirements, for example those for the North American or Asian markets.

KUKA ensures the effective fulfillment of these requirements through continuous training of the employees, deployment of internal and external specialists, as well as cross-departmental reviews at various times during production and before the market entry of products. In 2018, there were neither legal proceedings nor fines for violation of customer safety.

## Training ensures safety

Wherever our customers' employees work with our robots, a reliable level of safety must be guaranteed. This is why customers and business partners learn how to handle robots and cells safely and how to program them in user training courses in the KUKA Colleges around the world. This prevents accidents, increases work safety at the customer's facility and ensures proper use of all machinery and components. In the 2018 financial year, a total of 163 KUKA employees were trained in twelve product compliance events.



### \_Humans and machines working together

Human safety is paramount when humans and machines work together. This is why KUKA launched the first and at the time only industrial robot for human-robot collaboration (HRC) in 2013. The KUKA LBR iiwa (lightweight robot, intelligent industrial work assistant – see Sustainability Report 2017, page 60) fulfills the requirements for functional safety according to DIN EN 62061 up to SIL 2 and EN ISO 13849 through to performance level d of category 3 and is thus uniquely safe.

The second sensitive robot from KUKA was presented in 2018: LBR iisy. This robot too is equipped with sensors, allowing it to limit its speed, reliably detect potential collisions and measure the forces it might exert on people. With its six axes and a payload of three kilograms, this robot is suited for small-scale work that requires frequent changeovers and quick reaction times – from testing touch screens to checking the batteries of smartphones. It takes up very little space and offers outstanding utilization of the workspace thanks to its reach of 60 centimeters and, as the name implies, it is easy to use.



## Sustainability in the supply chain

# Responsible value creation



## Responsibility in procurement

The supply chain is a critical aspect of KUKA's sustainability management. We have a responsibility towards our customers in terms of the supply chain, as quality defects and ecological or social issues of our suppliers can have a direct impact.

The higher the proportion of purchased parts and products, the greater the influence of the supply chain on our own sustainability performance. For KUKA Group as a whole, up to 70 percent of sales revenues are attributable to purchased parts. We maintain close contact with our suppliers to minimize potential risks within the supply chain.

In all measures taken with regard to supplier management, KUKA aims to sustainably mitigate any potential risks to the environment, people and the companies and business divisions involved. However, despite all tried-and-tested processes and precautionary measures, no management system can fully cover all sustainability-related risks. With regard to the economic, ecological and social aspects of the supply chain, there consequently remains a degree of uncertainty, which we at KUKA always keep under close scrutiny. In particular when it comes to adding further locations as part of the global corporate strategy, we consciously aim to implement high standards from the very beginning.

## Ecological and social factors

In addition to quality aspects, sustainability in procurement becomes an important issue when weighing the environmental and social impacts of the supply chain. At KUKA, these risks are relatively low compared to many other sectors, because the required components originate from countries which are generally not regarded as conflict or risk areas. However, our supply chain also extends in some instances to countries in which adherence to human rights cannot be fully guaranteed. Without appropriate precautionary measures in our supplier regulations, our reputation could be at stake if human rights violations were to occur. KUKA does not accept any violation of basic human rights whatsoever. We expect our employees and business partners to adhere to our guidelines for the protection of human rights. They also apply to the entire supply chain.

“We expect our employees and business partners to adhere to our guidelines for the protection of human rights.”

## Clear responsibilities

The processes and responsibilities pertaining to supply chain management are clearly defined at KUKA. In the Operations department, Supply Chain Management and Global Sourcing are responsible for all procurement processes for products and standard solutions, serving the divisions. The responsible Chief Operations Officer reports to the Executive Board.

All production locations have procurement departments. The ratio between strategic and operational contents may vary depending on the main business focus.

At KUKA Systems, the regional companies in Europe, North America and China use their own purchasing processes and corresponding reporting lines. In all regions, the compliance-related requirements for suppliers are firmly rooted in the Purchasing Terms and Conditions, which also relate to human rights.

At Swisslog, procurement consists of Divisional Purchasing (management and central procurement services), Production Purchasing (purchasing for in-house production) and Project Purchasing (project-specific purchasing services).

## Local procurement in Group companies

KUKA has more than 10,000 suppliers worldwide. Whenever possible, KUKA prefers regional suppliers located in the vicinity of the site in question. In the past, for example at the site in China, local sourcing has been strongly driven forward and even further expanded. This prevents unnecessary transport routes and the associated negative environmental impacts, and it further strengthens the local economic environment near the sites.

Our purchasing requirements often cannot be satisfied by standard goods on account of the high product complexity and often technically demanding specifications. This is an advantage in terms of monitoring sustainability standards in the supply chain. For example, many special configurations entail a correspondingly high development effort, and the origin of the required components is already very transparent for quality reasons alone. In addition to standard industrial sheet metal, electronic parts, cables and hoses, we purchase specialized gear units, motors as well as castings and structural parts, e.g. for the robot arms.

## Supplier auditing

KUKA implements a large number of measures to ensure that sustainability management extends to the supply chain. Many of our production sites have already been certified according to the international environmental management standard ISO 14001. Additional production sites are scheduled for certification. Our key suppliers are also encouraged to observe and heed the environmental goals stipulated in the certification. In the contractually agreed performance requirements, for instance, they are obliged to use environmentally friendly products and processes both for their own services and for ancillary services provided by third parties, to the extent that is economically and technically feasible for them in the context of deliveries.

As a rule, all major suppliers are audited prior to starting cooperation. In addition to cost and quality aspects, on-site supplier audits also help to prevent environmental risks and compliance issues.

Particularly in parts of Asia, where sometimes employment practices that are considered unethical by western standards cannot be completely ruled out, we take our due diligence especially seriously. This is why KUKA Robotics audits the pro-

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“KUKA has more than 10,000 suppliers worldwide.”

duction facilities and manufacturing processes of potential key suppliers through its own quality management team in cooperation with the Procurement department.

Our audits also include internationally recognized environmental, labor and occupational health and safety standards. Among other things, these audits pertain to how materials are stored, used and disposed of, how waste separation and cleanliness are handled and what condition the machinery is in.

The focus is on avoiding risks associated with the use of so-called substances of very high concern (SVHCs) and conflict minerals in our products. These substances can be harmful to human health, have a negative impact on the environment or encourage human rights violations. This is why a REACH, RoHS and Conflict Minerals coordinator has been appointed in Quality Management to deal with the use and avoidance of SVHCs and conflict minerals in the components of our robots.

The continuous enhancement of the supply chain with regard to process optimization and the quality of suppliers and subcontractors takes place in close cooperation with quality, environmental and energy experts such as the Supplier Quality Management of the Quality department. Findings from audits, such as corrective and preventive actions, are regularly analyzed and processed. Our Supplier Quality Team continuously audits the supplier base pursuant to clearly defined priorities and cycles. No serious anomalies occurred in 2018.

Not just throughout the reporting year, our Supply Chain Management departments together with their corresponding colleagues in Development, Project Management, Production and Quality pursue strategic goals relevant to sustainability management. One of the focal goals is to continuously improve the company's transport-related ecological balance sheet by further increasing the share of local suppliers in Asia and exploiting regional synergies.

## Assessment procedures at Swisslog

At Swisslog, in addition to KUKA Group's guidelines on quality, environmental protection and occupational health and safety, the Purchasing Strategy, Purchasing Governance and Supplier Management guidelines also apply.

Sustainability aspects relate to the Production Purchasing and Project Purchasing departments. Project Purchasing is divided into three regions, namely Europe, the Americas and APAC. Suppliers can thus be evaluated and further developed according to the "local for local" approach.

Among other things, the requirements on sustainability, occupational health and safety and compliance are reviewed as part of the supplier selection process. These are important factors when approving suppliers.

Suppliers are assessed on a quarterly basis pursuant to a standardized supplier performance rating scheme. We also have a standardized procedure for supplier audits. In 2018, a total of 14 supplier audits were carried out. There were no significant anomalies in 2018.

## Clear requirements at KUKA Systems

The contracts, audit specifications and self-disclosure questionnaire for suppliers of KUKA Systems deal with issues of legal compliance, occupational health and safety, environmental protection and adherence to human rights. They require suppliers to prove that they employ internationally recognized management systems such as ISO 9001 and ISO 14001. To prevent human rights violations in the USA including child labor and forced labor, suppliers attest by signature in the KUKA Systems North America General Terms and Conditions of Purchase that they comply with the Fair Labor Standards Act. Similarly, suppliers in China undertake to adhere to the compliance specifications that are firmly anchored in the KUKA Systems China General Terms and Conditions of Purchase.

KUKA Systems in Europe conducts a risk analysis every two years for strategically important suppliers. Certificates for management systems are evaluated upon expiry. Random audits are performed in Europe every year. There were no anomalies in 2018.

“Findings from audits, such as corrective and preventive actions, are regularly analyzed and processed.”



Sustainability does not end at the factory gate: the focus is on the value chain.





## Compliance management

# Together against corruption and bribery



## Unchanged principles

Even though our market environment is subject to dynamic changes worldwide, our fundamental ethical values and the associated in-house rules remain unchanged. As a foundation for all our business activities, we have anchored our core values in rules which constitute part of our compliance structure. These include:

- Honesty and respect for ethical principles as a core element of business
- Compliance with applicable laws and regulations along with our core values and internal guidelines
- Effective use of resources and dealing with risks of the company, as well as
- Responsibility of each individual for his or her actions.

These core values are part of the corporate compliance program and thus an integral part of our daily business decisions and processes.

Corruption and bribery must be systematically combated for both legal and ethical reasons. They fuel poverty and social inequality throughout the world, stifling economic development. Cases of corruption involve reputational risks for our company and may entail fines, claims for damages or exclusion from public tendering procedures. That is why we pay particular attention to compliance with all relevant laws, and we take rigorous action when needed.

KUKA thus prohibits any form of corruption and demands abidance by the principles of fair competition. This self-image is a fundamental part of our corporate culture. Our pricing policy takes various factors into account. These include market development, but also the high quality of KUKA's innovative products and services.

The Compliance department falls within the remit of the CEO of KUKA Aktiengesellschaft. The Chief Compliance Officer is responsible for the compliance program and its operational implementation. Moreover, the senior executives are involved in the operational implementation as part of their leadership responsibility ("tone from the top"); this responsibility devolves to all management levels. In order to implement compliance together with all employees and external partners, we apply various processes and measures. All of this forms our Compliance Management System (CMS).

## Policy backed by manual and guidelines

Responsible management and supervision of the company are cornerstones of long-term success. In these matters, we are guided by the current version of the German Corporate Governance Code. We comply with the recommendations of the Code virtually without exception – and through this strengthen the confidence which our investors, customers, employees and the public instill in us.

Compliance with legal framework conditions and internal guidelines is firmly rooted in the Corporate Compliance Program. The content of this program is laid out in our Corporate Compliance Manual. This comprises our company's core values, basic information on corporate compliance and a description of the program's objectives. It also contains the most important points of contact as well as currently 16 group policies which establish the framework for KUKA's business operations by stipulating rules of conduct, cooperation

and personal commitment. Compliance with the rules of fair competition and the fight against corruption and bribery are additionally laid down in the group policies. The Corporate Compliance Manual constitutes the basis of the Compliance Management System. It is available to all employees via the company-wide intranet and is accessible to the public on the company's website.

We started revising the concept of the manual in 2018. Various sources of information are used for this purpose. Internally, a database in which compliance inquiries and issues are systematically recorded serves as the basis. In addition, a worldwide employee survey on the manual's applicability in everyday work has been conducted. And taking a broader view, a benchmark analysis of the compliance programs in place at companies comparable to KUKA yielded further valuable information.

The compliance manual is the basis for KUKA's compliance management system.



## Training expanded

In order to instruct employees concerning the Corporate Compliance Program, training measures have been made an inherent feature of the CMS. These measures are offered in several different formats, including computer-assisted learning methods that incorporate electronic media to present training contents (e-learning) as well as worldwide classroom training for selected topics.

The e-learning program is used to teach the core values as well as fundamental compliance skills and compliant behaviour. Participation is mandatory for all employees, which is confirmed with a certificate after successful completion. New employees are invited to participate in e-learning at regular intervals. All employees are encouraged to refresh their compliance know-how on a regular basis.

New modules were developed for the Corporate Compliance e-learning program in 2018, which will be rolled out during the current year; the topics are based on the Risk Map. And in order to foster compliance awareness from the very start, new employees learn about the issue with the Welcome Package during the so-called Onboarding Days at selected locations.

## Proven communication channels

It is important to us that employees can report suspected compliance violations without fear of negative consequences. If a violation is suspected, employees have various communication channels at their disposal. They may report concerns to their supervisor, the HR department or Compliance Officers who are deployed on-site and regionally. If an employee chooses to make an anonymous report, the suspected violation may be disclosed to the ombudsman, who has no position in the company and is therefore independent. The ombudsman forwards the issues directly to the Chief Compliance Officer in anonymous form.

The communication channels which are currently in place also proved effective in 2018. There were no pending proceedings relating to unfair competition or allegations of corruption known to KUKA Group in the financial year.

## Compliance training with KUKA

KUKA has been working closely with the Center for Professional Development and Knowledge Transfer (ZWW) at the University of Augsburg for many years. In 2018, KUKA once again organized the Company Campus Day of the Compliance Officer (Univ.) certification course. This gives participants an insight into how compliance is implemented in practice in an industrial company. In addition to the regular lectures given by ZWW course instructors, the participants had an opportunity to learn about the company's compliance work. Easy-to-follow presentations by members of the KUKA Compliance organization made compliance a palpable topic, creating an open platform for experts to exchange information and opinions.

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“It is important to us that employees can report suspected compliance violations without fear of negative consequences.”





## Environmental protection and efficiency

# Environmentally friendly products and processes





## Responsibility for the environment

Environmental issues are continuously taken into account and evaluated by the environmental management team together with the employees responsible. The focal topics include the direct energy consumption in production and also the energy efficiency of our products and systems during use by our customers. Closely related to this are the CO<sub>2</sub> emissions attributable to power consumption, thermal energy at the sites and the vehicle fleet.

CO<sub>2</sub> emissions are a contributory factor in climate change. Mindful of our responsibility for climate protection and in the interests of efficient production, we therefore aim to keep our carbon footprint at our production sites to an absolute minimum.

As a manufacturing company, KUKA also generates waste that is disposed of and recycled in accordance with the law, yet this may still impact the soil and groundwater. Accidents too could lead to the contamination of soil, water or air, for example through fire, leakages or natural disasters.

KUKA therefore takes extensive measures to minimize its environmental impact. Most of our production locations work according to internationally recognized management standards in the areas of quality (ISO 9001), environment (ISO 14001), energy (ISO 50001) and other industry-specific regulations. These management systems are implemented in accordance with the specific circumstances at the individual plants. The publicly accessible “KUKA guidelines for health, safety, sustainability and quality” serve as an umbrella policy. This applies to both the KUKA Group and our suppliers. Furthermore, Group-wide environmental management has been implemented since 2017 within the framework of an integrated management system which lies within the responsibility of the Group’s Executive Board. In 2018, the main focus was on the sites in Germany and the Czech Republic.

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“Environmental issues are continuously taken into account and evaluated by the environmental management team together with the employees responsible.”

## Lower costs with energy-efficient products

KUKA products and systems stand for innovation and quality. We know from our own production operations that energy is a significant cost driver, both for us and our customers. In addition to functionality and procurement costs, the operating costs of a robot or system are becoming increasingly important decision-making criteria for our customers, especially in countries and regions with high energy prices.

KUKA offers energy-efficient solutions for all customers to whom sustainable business practices are important from an ecological and economic standpoint. KUKA's intelligent solutions help our customers save costs and at the same time contribute substantially to conserving resources and combating climate change. In our experience, energy costs account for about 70 percent of the total cost of ownership (TCO) for production systems, for example. That is why KUKA Systems also offers its customers systems with lower energy consumption.

In order to further develop this approach and convince more customers to operate energy-efficiently, we have joined various industry initiatives and working groups. KUKA is addressing strategic sustainability issues in the VDMA Corporate Responsibility working group. And as a member of the International Federation of Robotics (IFR), we also contribute to a working group on energy efficiency and sustainability. Furthermore, KUKA is involved in euRobotics, the European Commission's public-private partnership, which will be active until 2020, and is a partner of the European Factories of the Future Research Association (EFFRA).

KUKA also worked on the "Industrial Production" thematic cluster of the "Road to a <math>2^{\circ}</math> Economy" project. This collaborative project of "Foundation 2<sup>o</sup> – German Businesses for Climate Protection" and WWF Germany addressed central decarbonization issues. The project participants developed solutions for greenhouse gas-neutral industrial production with the aim of greater transparency of actual CO<sub>2</sub> emissions.

## Energy-efficient solutions

KUKA offers its customers intelligent energy-efficient solutions. KUKA's KR QUANTEC product family, which is in particularly high demand in the automotive sector, today uses 30 percent less energy on average than its predecessor models. The KR QUANTEC weighs 150 kilogram less while providing better performance, making it significantly more efficient. Among other things, the new generation has been optimized in terms of performance, economy and flexibility.

The KUKA Marketplace not only enables customers to search for and buy the latest KUKA products, it also makes user manuals and videos available. On the Marketplace, customers also have access to KUKA Connect, the zero-touch IoT solution for smart production. This is a cloud-based software platform, enabling users to access and analyze their KUKA robots at any time and from anywhere. KUKA Connect allows customers to bring their products to market faster, adapt to regulatory requirements, increase efficiency, and introduce innovations faster.

Our robots have also been equipped with PROFI Energy, which provides energy-saving and standby modes for breaks and weekends. This allows up to 90 percent energy to be saved during downtimes.

KUKA offers highly efficient system components specially for the Magnetarc welding process developed by the company. The weld power source MagnetAr 620A ensures maximum welding quality through controlled energy input. The weld power source is much smaller than its predecessor, the SSQ, and 85 percent lighter. Energy consumption was reduced by 20 percent.

KUKA worked on further ready-to-use applications in the reporting year 2018. The preconfigured "ready2\_use" packages can quickly be integrated seamlessly into existing production systems. In cooperation with Böllhoff, one of the world's leading manufacturers and vendors of fasteners and assembly systems, KUKA presented the innovative self-pierce riveting solution "ready2\_rivet" in 2018. The package combines the KR C4 robot controller with the self-pierce riveting application from Böllhoff. The system features a shared operator panel and power supply, which reduces the hardware requirement and the associated material and energy consumption. Customers additionally benefit from the ease of integration into existing production lines and the versatility with regard to operating languages, power systems, climatic and thermal resistance as well as compliance with all relevant international standards.

The energy and material efficiency data of our products and systems are incorporated in the CO<sub>2</sub> footprint analysis which has been an integral part of our product development since 2017. The CO<sub>2</sub> footprint analysis will be used for the new KR QUANTEC generation for the first time. This analysis is the result of a multi-year EU-funded research project on energy-efficient body-in-white production, in which automakers and universities were involved.

## Contribution to the circular economy

The sustainability of our products is also evident in the selection of the materials we use as well as our recycling approach. Our goal is to find a viable route to a circular economy, aiming to maximize the useful life of materials. Although it is not possible to use secondary raw materials in many instances for reasons of quality, the steel we use generally has a high recycled content. This conserves valuable resources and is also economically beneficial.

Furthermore, we offer our customers a retooling service for older robots. Robots that are no longer in use are taken back by KUKA and refurbished. These are sold again as used machinery in many cases. Where this is not possible, we offer disposal services or recycling for used robots. Together with our customers, we thus strive to achieve a closed-loop materials cycle.



The lightweight robot LBR iisy is a multi-talent: It can be used in both – defined and unstructured working environments.

“KUKA offers energy-efficient solutions for all customers to whom sustainable business practices are important from an ecological and economic standpoint.”



## Environmental protection and efficiency

# Ecological responsibility in the production

## Intelligent automation solutions

KUKA offers industrial robots in numerous variants with a wide range of payload capacities and reaches. The spectrum of products also includes the appropriate robot peripheral equipment – from linear units to end effectors. Combined with cutting-edge software and innovative controllers, KUKA thus offers individual solutions for different manufacturing processes. Whether for maximum speeds behind safety fencing, as a mobile solution or for direct collaboration between humans and machines in HRC operation.

The demand for automation solutions is increasing and China is now the world's largest market for robotics. This is why China is one of our focus countries. KUKA strengthened its local presence there in 2018 and founded joint ventures in China together with its majority shareholder Midea. The Robotics joint venture started with the construction of a new production facility at Shunde Technology Park in southern China. The first robots will be produced there in 2019. During construction of the new buildings, great importance was attached to compliance with all applicable environmental, health and safety standards.

KUKA additionally offers its customers tailored complete solutions for automating manufacturing processes, covering all activities from planning and design through to the implementation of automated production systems. The expertise lies in automating individual production processes such as welding and joining, processing various materials and integrating different production stages to form a fully automatic system. In this connection, KUKA can offer its customers alternative, energy-efficient solutions.

Additionally, KUKA implements automation solutions for forward-looking warehouses and distribution centers. As a general contractor, Swisslog offers complete turnkey solutions, employing data-controlled and robot-based automation in particular. Swisslog has created its own energy efficiency label called GreenLog for its customers, which provides information on potential savings. Examples of energy-efficient system components at Swisslog are the VECTURA pallet crane and the ProMove pallet conveyor system. VECTURA is equipped with an energy recovery system, in which horizontal movement of the crane generates power for lifting. Energy is also fed back into the storage system during braking procedures. With ProMove, the use of frequency inverters for controlling the motors enhances energy efficiency, reduces wear on parts, increases the service life and lowers maintenance requirements.

## Systematic energy saving

At all production locations in Germany, KUKA analyzes the consumption of electric power with the aid of a software tool. Detailed analyses – for example of the paint shop, individual assembly areas or production machine units – help us to initiate needs-based improvements. In Augsburg, for example, data are collected using meter installations with more than 550 measurement points, the number of which is continuously being increased. Other environmentally friendly and energy-saving influences that have an impact on the purchase of new components are also evaluated at all sites. The data are collected centrally and made available to the locations for further optimization. With our certified environmental management systems, we ensure that negative impacts are kept as low as possible. This is supplemented in Germany and France by an energy management system.

Further measures for reducing our power consumption include:

- ongoing conversion of lighting to LED
- automated shutdown of machines
- daylight-dependent control of light intensity
- modern, energy-efficient air compressors and cooling systems
- average annual generation of 35,000 kWh of solar power at the Augsburg site.

# 35,000

kWh of solar power is produced annually at the Augsburg site



In 2018, the Management Systems department launched a project for the global capture of all energy data. Based on this, analyses will be carried out, measures for reduction will be prepared and, lastly, detailed targets will be set. The global, strategic energy and environmental objectives adopted by the Executive Board in 2018 are:

- 1 Lowering of energy consumption
- 2 Lowering of CO<sub>2</sub> emissions
- 3 Reduction of waste
- 4 Research and development of sustainable products and technologies

In addition, we provide energy and environmental management training for our employees in order to increase environmental awareness and thus enhance the success of our efforts.

**Energy consumption at KUKA (in MWh)**

	2016	2017	2018
Electricity	55,195	56,369	52,599
Heat	46,295	40,443	41,155
<b>Total</b>	<b>101,490</b>	<b>96,812</b>	<b>93,754</b>

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“KUKA is increasingly making use of virtual meetings.”

## Automation of in-house logistics

Logistics concepts such as the supply of materials via Kanban systems decrease internal transport routes as well as shipments from and to suppliers, thereby helping to permanently reduce CO<sub>2</sub> emissions. We continuously assess the possible expansion of these concepts.

The optimized layout of production halls, including on-site parts supply, results in short transport routes. The efficient flow of parts is facilitated by automation solutions similar to those we implement in our customers’ systems. Replacing our forklifts with a tugger train in the hall has also promoted energy efficiency.

## Focus on emissions, waste and water consumption

We also consider the development of emissions and the volume of waste and effluents to be components of the environmental management system, even if they are less significant than energy consumption.

With the new site concept in Augsburg, KUKA has started construction measures that will further improve the environmentally compatible supply of heat energy at the plant. A central cooling station will be built, along with new buildings heated by means of district heating. CO<sub>2</sub> emissions at our largest production locations totaled 35,353 tonnes in 2018 (2017: 35,165 tonnes).

Production waste is separated and disposed of or recycled expertly by trained personnel. This also includes chemically contaminated waste (contaminated metals), which is disposed of by external service providers pursuant to the applicable legal regulations. When packaging our products and components, we use eco-friendly returnable packaging instead of disposable packaging in order to reduce packaging waste. The waste generated at our major production locations in 2018 amounted to 8,632 tonnes (2017: 13,174 tonnes). This corresponds to 0.9 tonnes per employee (2017: 1.3 tonnes). The reduction in the volume of waste was primarily attributable to the KTPO production plant, which is currently undergoing conversion. However, the amount of waste was decreased even without this one-off effect.

**Waste generation and disposal (in tonnes)<sup>1</sup>**

Type of waste	2016	2017	2018
Hazardous waste	670	665	745
Non-hazardous waste	11,164	12,509	7,887
<b>Total waste</b>	<b>11,834</b>	<b>13,174</b>	<b>8,632</b>

<sup>1</sup> KUKA's largest production sites in Europe, North America and Asia (Augsburg, Obernburg, Bremen, Chomutov, Sibiu, Taksony, Sterling Heights, Toledo, Kunshan, Shanghai)

Water consumption is measured according to environmental management specifications; for this purpose, various saving measures have been implemented in the production halls and office buildings. KUKA determines the water consumption per employee as a key indicator. At our largest production locations, the total water consumption in 2018 amounted to 112,872 m<sup>3</sup> (2017: 104,211 m<sup>3</sup>). This corresponds to water consumption per person of 12.2 m<sup>3</sup> (2017: 10.6 m<sup>3</sup>). The increase in water consumption as compared to the previous year was mainly due to construction measures. Disregarding this one-off effect, the water consumption was 2% lower.

Our environmentally oriented approach is also reflected in other production areas. For example, KUKA paints the robot arms with an eco-friendly water-based standard paint, which contains only about 5 percent solvent. The solvent consumption thus lies far below the permissible threshold value.

Energy and resource conservation is also pursued in the administrative area. KUKA is increasingly making use of virtual meetings in the form of telephone and video conferences, thereby lowering the impact on the environment through a reduction in business travel. Moreover, the default printer settings at the Augsburg location were changed in 2018 to black and white printing only. This saves unnecessary color prints.

## Environmental protection in construction measures

In 2018, KUKA started to build a new training center for employees. Environmental protection plays a major role here. For example, the future building will be heated via a new municipal district heating network. Cooling for the base load will be provided by wells, which means that part of the site's energy requirements will be covered by the well system.

This is supplemented by the construction of a new cooling system for almost the entire Augsburg site. The new central cooling system keeps the use of refrigerant to a minimum and is replacing existing, obsolete installations. A natural refrigerant, R290 (propane), is used, which is virtually CO<sub>2</sub>-neutral. We expect significant savings in energy and the associated costs as a result of these measures.

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“With the new site concept in Augsburg, KUKA has started construction measures that will further improve the environmentally compatible supply of heat energy at the plant.”



## Responsibility as an employer

# Employees and leadership



## Securing future viability

KUKA is shaping the workplace of the future. Our technologies are defining many industries. Just like our customers, we also have to address the challenges of digitization. We are continually advancing digital processes and preparing our employees accordingly through training and further education. Various measures concerning human resources are designed to secure our long-term viability as an automation specialist.

Challenging projects, agile teams and an international setting offer plenty of room for shaping these future topics and people's personal careers at KUKA. Our success is founded upon productive and motivated employees. They are key to dealing with the changes our customers experience and to opening up new markets for robot-based automation.

We are responsible for more than 14,000 employees worldwide. KUKA has grown immensely in recent years, both globally and at our home base in Augsburg. As part of our new location concept, we are investing in new office space and a new production hall to create a productive working environment for our employees.

## Management and leadership concept

The Corporate Human Resources (CHR) department answers directly to the Chief Executive Officer and is responsible for all strategic HR processes worldwide. At a regional level, we control these processes via hubs in the regions of Asia / Pacific (APAC), the Americas, Europe / Middle East / Africa (EMEA) and Germany / Austria / Switzerland (DACH). They are responsible for the implementation of standards and for harmonization processes within the relevant regions.

We have embedded our values in twelve uniform leadership principles. These include, for example, fairness and the compatibility of work and family life. They are supplemented by local agreements conforming to national laws and customs.

Our employees' interests are also protected in collective wage agreements and local company agreements in Germany as well as the so-called "delegation of employers' duties", target agreements, working time regulations, management systems and various guidelines on health, safety, environment, sustainability and quality.

Unfortunately, we do not collect the global percentage of employees covered by collective bargaining agreements, and do not plan to do so in the future, since the cost of collecting the information is in no reasonable proportion to the value of the information.

Our specifications for the Integrated Management System (IMS) describe principles and procedures within KUKA Group and govern organizational structures, tasks, processes and responsibilities. These specifications are binding for all employees.

## Broad support

KUKA is striving to further improve its attractiveness as an employer. This includes a high-level training and further education package, diversity and equal opportunity, measures to reconcile work and family life, high occupational health and safety standards and health and sports offerings. Diversity within the company is governed, among other things, by the Group guideline "Principles of cooperation within KUKA Group" as part of the Corporate Compliance Handbook. In Germany, KUKA is also a signatory to the "Diversity Charter" and is thus publicly professing to the company's commitment to diversity and a prejudice-free work environment.

KUKA is measuring the success of these measures based on the applications we receive, especially for key and critical positions, through employee satisfaction surveys as well as our score in various employer rankings.

## Attractive and modern workplaces

Our success is founded on committed and creative employees. This is why issues that concern our employees are particularly important to us.

Our employees work on challenging projects in an international setting that gives them plenty of room for shaping these future topics and their personal careers at KUKA.

As an integrated and global solution provider, KUKA is working on new concepts to further develop the in-house working environment. We are continually advancing digital processes and training our employees accordingly.

These change processes are embedded in our “KUKA 2020” strategy. This aligns the company to the global megatrends of globalization, automation and digitization. Productive and motivated employees are key, as they can address changes our customers experience and open up new markets for robot-based automation. This is how we aim to maintain and further expand our technological leadership in a highly dynamic market environment.

Our employees <sup>2</sup>	2017	2018
Under 35 years old	5,344	5,602
36 to 55 years old	7,189	6,827
Over 56 years old	1,602	1,821
<b>Total</b>	<b>14,135</b>	<b>14,250</b>
Female	2,686	2,782
Male	11,449	11,468

<sup>2</sup> Group-wide, January 1 – December 31, 2018. Active personnel excluding casual workers, student trainees, apprentices, interns, dormant jobs and employees exempted from normal duties.

“At many locations, KUKA offers employees flexible working times in order to better combine work and private life.”

## Benefits for our employees

At many locations, KUKA offers employees flexible working times in order to better combine work and private life. For example, our employees at the German sites may work part-time, use flextime arrangements or work from home (teleworking). Teleworking opportunities are also offered in France and – starting in 2019 – in Spain. At our headquarters in Augsburg, the non-profit association Orange Care e.V. founded by KUKA employees offers a daycare center with a capacity for 30 children. Vacation childcare programs and services such as a weekly laundry service are also available to KUKA employees in Augsburg. The Swisslog staff in the UK receive childcare vouchers. KUKA’s family-friendly HR policy has been recognized with the “berufundfamilie” (work/life balance) audit seal of approval since 2010.

KUKA attaches great importance to promoting a good working environment and supports employees with a variety of sports activities. In Germany, this includes participation in the Augsburg Corporate Challenge Run, the Obernburg Roman Run, the Bavarian Beach Cup or the city cycling event. Furthermore, we organize regular yoga and even self-defense courses for women. In the USA, the KUKA Cares Foundation offers employees a health program that rewards them for leading a healthy lifestyle. Participating employees can also receive subsidies for preventative health care. Communal sporting events are organized at our Asian and Australian sites, such as marathons, white water rafting or joint hiking excursions.

In the USA, the KUKA Cares Foundation supports children of staff and awards college scholarships each year. The selection is based on their curricular and extracurricular performance. In



2018, 18 children received a scholarship. This was the highest number of scholarships ever awarded. The KUKA Cares Foundation also organizes various leisure activities. In the 2018 financial year, for example, the employees and their families had an opportunity to watch a Detroit Pistons game on Basketball Night or a Detroit Tigers game on Baseball Night.

Employees in the USA are also allowed to donate their vacation time to colleagues in need. Over the last few years, the employees have donated more than 2,500 hours to their colleagues.

KUKA in Southeast Asia offers country-specific benefits that go beyond the legal requirements. This includes annual health checks, financial support for dental care, travel insurance and additional vacation time.

**Employees per region**

Europe	9,357
Americas	2,722
Asia	2,171
<b>Total</b>	<b>14,250</b>

**Fluctuation<sup>3</sup>**

	2017	2018
New hires	3,418	2,395
Employee departures	2,322	2,222

<sup>3</sup> Group-wide, January 1 – December 31, 2018. Active personnel excluding casual workers, student trainees, apprentices, interns, dormant jobs and employees exempted from normal duties.

We want to motivate our employees and promote a good working atmosphere with our wide range of offers.

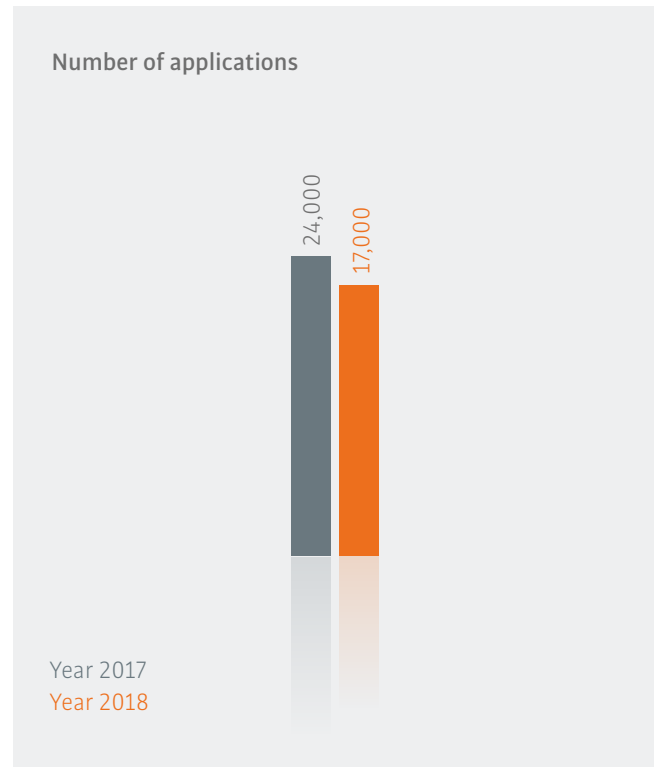




## Modern employer

KUKA is striving to further improve its attractiveness as an employer. Success is measured on the basis of incoming applications, especially for key and critical positions. External benchmark studies have also given us good scores. In the Trendence Graduate Barometer, which is based on a survey conducted among pupils, students and young professionals on who their preferred employer is, KUKA held on to 22nd place in engineering, and in IT we improved from 63th to 45th place. In the Young Professionals survey, KUKA ranked 6th among employers for mechanical engineering and 3rd for mechanical engineering for students. The number of applications at our largest German sites exceeded 17,000 in 2018 (2017: 24,000).

Swisslog launched an employer branding initiative for Europe in 2018. The goal is to keep talent in the company while also adding personnel. Different measures have been developed to raise Swisslog's name recognition in the various countries. This included advertising materials such as corporate videos about the company as well as the use of social media channels.



“KUKA is striving to further improve its attractiveness as an employer.”

# 6th

place in the young professionals survey  
in the field of mechanical engineering



Responsibility as an employer

# Responsibility for the next generation



## Innovative vocational training

Our training and continuing education in the fields of robotics and automation turns junior KUKA talent and employees into responsible co-creators of Industrie 4.0.

Our trainees learn in a modern training center with a total floor space of 2,000 square meters. When it comes to the professional training of young people, KUKA offers apprentices not only specialist know-how, but also an opportunity to learn in an intercultural setting and to think and act globally on a Group-wide scale. We attach great importance to familiarizing apprentices with the international strategy of the Group at an early stage. They are given an opportunity to gain experience abroad at other company locations each year, such as in China and the USA.

Professional training is offered at the German sites in Augsburg, Obernburg and Bremen. The Group offers apprenticeships ranging from technical professions such as industrial mechanic, lathe/milling machine operator, mechatronics technician, electronics technician for automation technology, warehouse logistics specialist and specialist for forwarding and logistics services to the commercial sector with occupations such as industrial clerk, IT specialist and technical product designer. KUKA trains as needed and was able to offer jobs to all apprentices who passed their training in 2018.

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“KUKA apprentice graduates are consistently top of the class at vocational schools and at Chamber of Industry and Commerce final examinations.”

KUKA apprentice graduates are consistently top of the class at vocational schools and at Chamber of Industry and Commerce final examinations. Our apprentices are qualified experts who are ready for the job and with whom future projects and new technologies can be implemented quickly.

Since 2018, the apprentices have been working with a new training software called the “Azubi Cockpit” (German for “Apprentice Cockpit”). It is a uniform platform which digitizes all important processes. Apprentices can make entries in their report books anywhere at any time, access their transfer plans and view all their appraisal forms. The software is scheduled to be introduced at the Obernburg and Bremen locations in 2019.

At KUKA College, KUKA also trains “robot trainers” who in turn train customers on handling robots. The prospective trainers are instructed in so-called “Train the Trainer” seminars. After a training period of up to three years, the trainers are endowed with a broad range of technical know-how for maintaining and programming the robots as well as teaching skills for the transfer of knowledge.

Training is a high priority at KUKA.





## Cooperation with external partners

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

KUKA cooperates with renowned universities with regard to further education. One of them is the Technical University of Munich. KUKA also works together with renowned universities, such as Aschaffenburg University of Applied Sciences and the universities in Augsburg and Kempten, in various international research and development projects. Furthermore, KUKA has been a practical partner in the Finance & Information Management (FIM) program since 2017. The Master's program is part of the Elite Network Bavaria and is offered jointly by the Universities of Augsburg, Bayreuth and the Technical University of Munich. It combines computer science, business informatics, operations research and financial mathematics. As a practice partner, KUKA is not only involved in the selection process of the students, but the company also offers individual, practice-oriented research projects, mentoring and internships.

Collaborating with educational institutions is important to KUKA as an employer. Every year, KUKA is involved in numerous university recruiting fairs and makes many trade fair appearances, such as at the "Fit for Job" career fair in Augsburg or the "konaktiva" student fair in Darmstadt. KUKA also participated in the Job Shuttle of "Wirtschaftsjunioren Augsburg" (part of the Junior Chamber International network). In addition to plant tours, KUKA also offers internships and theses, and employs 120 to 150 student interns per year. We organize events in our company, such as robot courses and practice days for school classes, but also events in schools, such as a career information day or applicant training. Thanks in part to the "Fair Company" seal, KUKA enjoys a good reputation among interns.

## Expertise in many areas

In 2018, KUKA trained around 200 apprentices and dual degree students. This number also includes the apprentices of our external partners. KUKA offers bookable training modules for these partners. In addition, KUKA employed around 200 interns and authors of theses and provided around 130 work experience placements in the year under review.

A large, light gray graphic of the number 3,258, positioned on the right side of the page. The number is rendered in a clean, sans-serif font. To its left, there is a large, light gray curved shape that partially overlaps the page's edge, resembling a stylized 'C' or a partial circle.

employees in Germany took part in  
308 training events in 2018

## Diverse training programs

As part of our continuing education programs at KUKA Academy, we accompany and support KUKA employees in their personal and professional development. Here we offer all our employees an extensive and varied range of technical/methodical and personal further education courses. These include standard courses, such as computer and language courses, specific professional courses from the fields of sales, purchasing, business administration, strategic implementation and project management, along with seminars for leadership, communication and change management. Our professional development measures are offered internationally, taking into account the local requirements. In Germany, 3,258 employees took advantage of 308 in-house standard training events in 2018, resulting in a total of 3,435 participant days. The significant drop compared with the previous year is due to the fact that training in connection with the major strategic project Power ON was no longer offered. In addition to that, 286 persons took part in 17 workshops within our global leadership programs.

Beyond the training offered, KUKA offers seminars for apprentices, such as robotics training, English lessons throughout the entire training period, team building projects and addiction prevention.

We support our employees in various ways in dealing with the challenges of an increasingly fast-paced working environment. Because only through shared knowledge and everyone's performance can we continue to grow and further expand our market position as a technology corporation.

The highest demands on training quality pay off: KUKA graduates often finish first in their class.





## Responsibility as an employer

# Corporate culture and mission

## Responsible leadership

KUKA owes its successful business development in recent years first and foremost to the outstanding performance of its global team. The high level of commitment, engagement and innovation of the employees is firmly anchored in the leadership culture. Employees need a clear and consistent vision of the company's future as well as uniform understanding of the values, principles and culture that managers are expected to demonstrate. Change processes are only supported by employees if they trust their managers. Managers have the responsibility and influence corporate culture and in-house interaction to a large extent.

KUKA has had Group-wide, global leadership principles since 2014. They were developed by around 250 managers over the course of various workshops. The leadership style consists of four aspects:

- a What is the basic attitude of the manager towards themselves as well as in dealing with others?
- b What is the common understanding of the managerial task?
- c How is this reflected in managers' own behavior?
- d What is the common understanding on issues regarding the general orientation of the company?

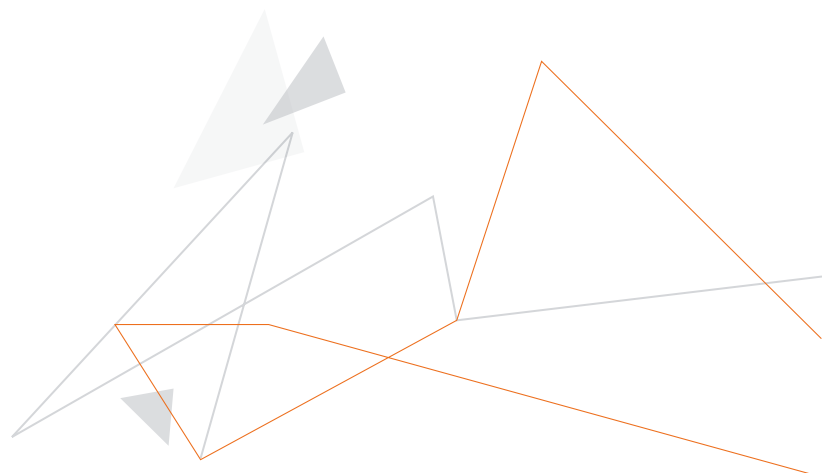
Three guiding principles were formulated for each of the four perspectives, describing the orientation and expectations for all managers. Twelve guiding principles thus define a framework that can be filled according to the location and level within the company. This enables different cultural aspects to be taken into account. With the aim of further consolidating the shared understanding of KUKA values and principles worldwide, this was permanently adopted in the content of the internal manager development program in 2018.

Regular exchanges across national borders are another important aspect of our leadership culture. In addition to regular management calls, a global management meeting is held once a year, at which all KUKA managers exchange experiences and develop concepts together. The first digital meeting took place in 2018. The managers visited virtual workshops and worked across borders without having to get on a plane. The meeting – which promoted both efficiency and intercultural networking – also benefited the environment, as there was no traveling by plane or car.

## A corporate culture that is lived and cultivated

We promote internal communications within the company using a wide spectrum of communication platforms from noticeboards through e-mail newsletters, social business platforms to our well-established and popular employee magazine, which is now available in two languages.

KUKA Germany's corporate culture includes a range of firmly established events and celebrations, including a family day when employees can show their families around the company, and an annual Christmas party for children. To strengthen and promote our corporate culture, we run the "KUKA inside" event at least once a year, which is a town hall meeting followed by a get-together. Relevant contents are communicated to our companies in Germany and abroad. Regular employee information events with a local focus also take place at our locations worldwide. At the annual Corporate Research open day, all employees can find out exactly which research projects KUKA is involved in and what the topics of the future will be.







## Responsibility as an employer

# Diversity for a strong team



## Diversity as a success factor

Benefiting from and furthering the diversity of our employees is an important cornerstone of the success of our company. It is a source of creativity and innovation. KUKA benefits from various experiences and talents, because it is our corporate culture to live and promote diversity. The appreciation of our diversity has a positive effect on KUKA as a company, on how we deal with our customers and on our role in society.

The employees at KUKA are valued regardless of their origin, gender, age, disability, religious views or sexual orientation. Our aim is to create a work environment that is characterized by acceptance and tolerance and is free of prejudice. Equality also means that our compensation system makes no distinction between men and women. KUKA thus pays its employees based solely on performance and expertise.

## Diversity is paramount

Diversity is governed, among other things, by the Group guideline “Principles of cooperation within KUKA Group” as part of the Corporate Compliance Handbook. One of these principles is “diversity and appreciation”. A new reporting system was introduced in 2018, which now enables national and international analyses based on gender, nationality and age at any time. These figures are regularly evaluated and provided to management.

Diversity aspects are taken into account when new guidelines and processes are created. A globally valid diversity guideline is in the planning stage and scheduled to be adopted in 2019. Since April 2017, the issue of diversity has been coordinated by a diversity manager in the Transformation & People Development team of the Corporate Human Resources department.



Our declared goal: to further increase the share of women at KUKA

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“The appreciation of our diversity has a positive effect on KUKA as a company, on how we deal with our customers and on our role in society.”

## More female employees

KUKA is working on further increasing the number of women in the workforce and in leadership positions. With Group-wide restructuring that has been taking place since the beginning of the year as well as the associated new legal structures of the various companies, we will also be adjusting our goal of promoting women in the workplace. As part of this, we will be tracking the worldwide number of women working in the next two management levels below the Executive Board. The new target specifications according to Section 76 (4) of the German Stock Corporation Act (AktG) and the Act on the Equal Participation of Women and Men in Executive Positions for KUKA AG, Systems GmbH and Deutschland GmbH (previously Roboter GmbH) were not yet approved in 2018 because the restructuring process had not yet been completed. This review is now scheduled for 2019.

As of December 31, 2018, the proportion of women on the Executive Board and Management Boards of the three German companies was cumulatively 14 percent. The first management level below that had 18 percent women for all three companies, and the second level of management a cumulative 10 percent. The general share of women in the workforce in these three companies was 18% as of the reporting date.

Worldwide, the general share of women in KUKA Group was 20 percent in 2018. Globally, for the first management level below the Executive Board and Management Boards the share is 21 percent and on the second level it is 19 percent.

The share of female apprentices for commercial-technical professions at KUKA dropped slightly in 2018 to 17 percent after many years of above-average numbers. Overall, we had fewer applicants than in the previous year. With our annual events such as participation in Girls' Day and with work experience placements for girls, practical days, robot days and our cooperation with girls' schools, our intention is to appeal to more female students to increase their share.

## Woman power at orangeWIN

The internal women's network orangeWIN was founded in 2016 with the aim of promoting women in the company and identifying female talent. Events in various formats, for example business lunches on various inter-departmental topics were held at four to six-week intervals during the reporting year. In addition to discussing technical topics, these events were also an opportunity to network, such as at a workshop on "Diversity goes digital – how does the new working world benefit from diversity and vice versa?". Two keynote lectures with external speakers were also offered, including Nicola Baumann talking about her career as a Eurofighter pilot.

The women's network orangeWIN organized 23 events with around 435 participants in the 2018 reporting year. This represents an increase in participants of 21 percent over the previous year. The in-house mentoring program organized by orangeWIN is used to regularly exchange information between the different levels of experience and also facilitates the further development of skills and strengths through self-reflection. It also supports the professional and personal development of the participating employees. In 2018, 18 tandems took part in the program; in 2017 that number was 16.

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“The women's network orangeWIN organized 23 events with around 435 participants in the 2018 reporting year.”

## External networks

KUKA was represented for the second time in 2018 with a booth at “herCAREER”, the leading trade fair for female career planning in Munich, Germany, in order to raise awareness of KUKA among the female target group and to win over interesting candidates through personal contact.

The orangeWIN network is also well regarded outside of KUKA. In 2018, for example, the “BayernMentoringProfessional” program for female students of the STEM faculties was presented at the Kempten University of Applied Sciences.

KUKA is also active in other networks, such as the association of women’s networks “Women in Network” (WIN) in Munich, Germany. This currently includes 17 companies that meet once a quarter. Moreover, KUKA is involved in a network with other Augsburg-based companies from various industries. Both networks deal with the issues of gender equality, equal opportunities and the advancement of women.

In addition, KUKA has been participating in the Augsburg cross-mentoring program since 2011. This program supports young managers with their professional and personal development and is designed as a company-wide cross-mentoring program. KUKA is also involved in the mentoring partnership MigraNet, which is committed to the professional integration of people with a migrant background. Five people have been mentoring since we joined the program. Since 2011, a total of 15 mentors (until 2017: 13) and 16 mentees (2017: 14), including many women, have participated in the Augsburg cross-mentoring program.

Diversity is a source of creativity and promotes innovation.





## Responsibility as an employer

# Health protection and occupational safety

## Minimizing health risks

As part of our commitment to the wellbeing of our employees, we minimize safety-related risks and health hazards at our sites. We employ high safety standards for all activities in the company. This also ensures that we remain an attractive employer, thereby counteracting a shortage of skilled personnel in our company.

Occupational health and safety are an essential requirement for ensuring that business operations run smoothly in manufacturing companies like KUKA. Appropriate management systems and general awareness of occupational health and safety not only serve to protect the health of employees, but also affect the success of our company.

Occupational health and safety is therefore firmly embedded in management systems and supported in some cases by external certifications at the major locations of KUKA Group. Most of the production locations are geared to the international management standard OHSAS 18001, which also plays an important role in supplier audits. The largest production location, Augsburg, is certified to OHRIS (Occupational Health & Risk Management) – a Bavarian state management system. Meetings of the Occupational Health and Safety Committee take place every quarter, attended by decision-makers from management or their representatives, occupational health and safety, occupational medicine and employee representatives. Occupational health and safety has a high priority at smaller locations too, even though consistent management in terms of occupational health and safety issues is still in the development phase in many instances. The Group Executive Board and the CEOs at the locations are kept regularly informed on the status of occupational health and safety on the basis of performance indicators.

We began to introduce Group-wide safety performance indicators (SPIs) in 2017. This includes tracking the LTIR (Lost Time Injury Rate), which is calculated per 200,000 working hours as of 2018. The worldwide LTIR was 0.9 in 2018 (2017: 1.0). There have been no fatal industrial accidents across the Group in the last few years. In addition, a Group-wide reporting system for all occupational accidents with one or more days of absence (“Lost Time Cases”) was introduced in 2018. The direct line managers are informed and define suitable corrective measures, if necessary. Furthermore, all responsible parties are informed about occupational accidents that result in absenteeism as well as the measures necessary to rectify these instances, so that the risk of previously undetected hazards at comparable weak points can be reduced.

The awareness of employees is also enhanced by means of specific campaigns. For example, a campaign on preventing accidents on the way to work, with particular focus on cycling, was held at the Augsburg location. The campaign “Für deine Sicherheit – Gib acht – Fahrrad” (pay attention to your safety when cycling) raised employees’ awareness on how best to avoid frequent causes of accidents. Furthermore, safety equipment such as bicycle helmets were also raffled off to the employees. Training courses on occupational health and safety are also carried out on an annual basis at key sites in China, not to mention additional induction courses for new employees and campaigns such as safety and fire protection months.

0.9 

was the global LTIR  
(Lost Time Injury Rate) in 2018





Social engagement

# Commitment to the community

## Our social responsibility

KUKA is a forward-looking company with a sense of social responsibility. KUKA employees in Augsburg founded Orange Care e. V., a non-profit association which supports people in need, especially in terms of helping young people and families. Orange Care has also sponsored a children's daycare center since 2014 with the goal of improving the work-life balance for our employees.

The main focus of the charitable foundation is to support projects within the periphery of the company. These are mainly projects that are either located at a KUKA site or have originated through the involvement of KUKA employees.

## Five years of social engagement

Orange Care celebrated its anniversary in 2018 – it was established exactly five years ago. The association is engaged in many different ways. For example, it supports the KlinikClowns e. V. of the pediatric ward in the Josefinum specialist clinic in Augsburg. The clowns visit the children's ward once a week and make everyday life in the hospital easier for the children through play and fun. This helps both the children and their parents deal with the illnesses. The activities of the two KlinikClowns in hospitals, care and therapy facilities are based on the scientific finding that laughter and humor can facilitate healing, as they have a positive effect on a person's general outlook and health.

Orange Care also makes regular donations to the Regens-Wagner Foundation in Holzhausen, one of eight church foundations by the same name in Bavaria. The foundation offers people with disabilities broad support for school, training, employment and daycare. In addition, the association supports severely disabled people through music with its involvement in the Landsberg Musical School.

In 2018, Orange Care provided financial support to "Verein Kinderweihnachtswunsch" (Christmas wish association for children), through which it was able to fulfill several Christmas group wishes for children and young people in social institutions. This included tickets to the movies and zoo as well as for leisure facilities in the surrounding area.

The family of a deceased colleague was also supported in a hardship situation.

The Orange Care crèche makes it easier for our employees to reconcile work and family life.





## Engagement outside of Orange Care e.V.

KUKA employees worldwide take on responsibility in the community and support social causes. Employees in the USA, for example, are involved in the KUKA Cares Foundation, which was established by KUKA Systems and partner companies. One of the core missions of the foundation is to support people in distress and families in need, for example in terms of health, their financial situation or educational projects. In 2018, the KUKA Cares Foundation donated USD 25,000 for a room at the newly built Ronald McDonald House (RMH) at Detroit Children's Hospital. RMH is a charity that supports families with sick children.

In Augsburg, KUKA works with the Ulrich Workshops of the social enterprise CAB Caritas Augsburg Betriebsträger GmbH. The Ulrich Workshops find jobs for people who are unable to find employment in the general labor market due to the nature or severity of their disability. Three employees of the Ulrich Workshops work in the wrist assembly department for the KR QUANTEC robot at KUKA. These external jobs serve to actively integrate the colleagues in the daily production routine of an industrial company.

The Augsburg foundation "Der bunte Kreis" also benefited from financial support in 2018. The KUKA Medical Robotics team had previously won the Innovation and Entrepreneurship in Robotics and Automation (IERA) award and donated the prize money to the foundation. "Der bunte Kreis" helps children and adolescents suffering from chronic cancer and severe illnesses and their families in the Augsburg region to cope with everyday life despite the adversities they are facing. Every year, about 2,000 families with critically ill children are provided with caring and expert support.

Apprentices in Obernburg collected presents to charity.



## Bringing robotics and automation closer to the public

In November 2018, KUKA took part in European Robotics Week (ERW) – initiated by the European robotics association euRobotics – for the eighth time. During this week of events, KUKA employees have the opportunity to get involved in raising awareness of robotics and automation in the general public and in allaying reservations and fears. Another aim is to arouse the interest of young people in technology and scientific subjects. Employees visited schools and kindergartens during Robotics Week, delivering presentations on robotics. As already in the years before, KUKA invited children and adolescents to gain an insight into the topic of robotics during two days of lectures for children.

Two courses on working with robots were held for school classes in KUKA College. Prof. Torsten Kröger, head of the Institute for Anthropomatics and Robotics at the Karlsruhe Institute of Technology (KIT), gave a lecture for adults on “Humans and robots – A (r)evolutionary history of collaboration.” Interested parties were also invited to register for guided tours of the KUKA plant or visit the “SmartFactory as a Service”, a joint project of KUKA, MHP and Munich Re, in Munich’s “Werksviertel” during the open house day.

## Sports for a good cause

Many KUKA employees are involved in the community through sports. In 2018, two employees participated in the “Nonstop across Germany” campaign organized by Radeln und Helfen e. V. In total, the two covered a distance of 1,861 kilometers. Orange Care donated one euro per kilometer. The money benefited various children’s aid organizations, such as the Initiative krebskranker Kinder München e. V. (initiative for children with cancer) or the Children’s Cancer Aid in the district of Altötting.

KUKA in the Czech Republic supports the running event “TERIBEAR Moves Prague” for disadvantaged children, organized by the Tereza Maxová Foundation. Over a period of ten days, kilometers could be accumulated on a specific running course. 16 KUKA employees ran more than 300 kilometers overall during this time. The event partners donate 30 Czech crowns (equivalent to 1.16 euro) for every kilometer to support charitable projects.

KUKA China is participating in the “More than a Market” initiative, which was launched in 2015 by the German Chamber of Foreign Trade in Shanghai together with the Bertelsmann

Foundation and the German Consulate General. The initiative aims to pool the existing social engagement of German businesses in China in order to improve the relationship between companies and the general public. KUKA donates the equivalent of 6,000 euro to charitable projects every year and supports, among other things, a soccer project in schools. The goal of the project is to provide modern physical education for migrant children in China.

## Help during the Christmas season

Community work is of particular importance during the Christmas holiday season. Rather than distributing large presents for customers in 2018, KUKA Austria came up with their own, small gift idea to show customers and partners their appreciation. KUKA colleagues joined employees of the ARTEGRA sheltered workshop in a cooking class, cooking for each other and even baking cookies with the KUKA lightweight robot LBR iiwa. The sensitive robot helped to cut out the cookies.

In Obernburg in northern Bavaria, KUKA apprentices also collected Christmas gifts for children in eastern and south-eastern Europe. Under the motto “Gifts from the Heart”, an initiative was launched across Bavaria in 2018 in which our apprentices also participated: with the support of the youth and training representatives, they collected boxes full of Christmas gifts at central drop-off points. The boxes had previously been packed by colleagues in Obernburg according to a list of suggestions, with the various age groups in mind. The apprentices handed the packages to volunteers of the humedica aid organization in November to ensure that the needy children would get a special Christmas surprise. In addition to the nicely packaged gifts, the organization also received monetary donations.

# GRI Content Index



This report has been prepared in accordance with the GRI standards of the Global Reporting Initiative (GRI): “Core” option. In preparation for this, we determined the key sustainability topics for KUKA in an updated materiality analysis. For the Materiality Disclosures Service, Global Reporting Initiative Services reviewed that the GRI content index is clearly presented and the references for Disclosures 102-40 to 102-49 align with appropriate sections in the body of the report. The service was performed on the German version of the report.

Disclosures	Pages	Comments
<b>General Disclosures</b>		
<b>GRI 101 Foundation 2016</b>		
<b>GRI 102 General Disclosures 2016</b>		
<b>Organizational Profile</b>		
<b>GRI 102-1:</b> Name of the organization	4	
<b>GRI 102-2:</b> Activities, brands, products, and services	7–10	
<b>GRI 102-3:</b> Location of headquarters	7	
<b>GRI 102-4:</b> Location of operations	7–10	
<b>GRI 102-5:</b> Ownership and legal form	9	
<b>GRI 102-6:</b> Markets served	10, 11	
<b>GRI 102-7:</b> Scale of the organization	7	See Annual Report, page 62
<b>GRI 102-8:</b> Information on employees and other workers	48, 49	Unfortunately, we do not record the worldwide number of full-time, part-time, temporary and indefinite employees and do not intend to do so in the future, as the cost of obtaining information in is not in a reasonable relationship to the value of the information.
<b>GRI 102-9:</b> Supply chain	31, 32	
<b>GRI 102-10:</b> Significant changes to the organization and its supply chain		See Annual Report, page 41
<b>GRI 102-11:</b> Precautionary Principle or approach	16, 31	
<b>GRI 102-12:</b> External initiatives	14	
<b>GRI 102-13:</b> Membership of associations	14	
<b>Strategy</b>		
<b>GRI 102-14:</b> Statement from senior decision-maker	5	
<b>GRI 102-15:</b> Key impacts, risks, and opportunities	14, 16, 20, 31, 39, 47	
<b>Ethics and integrity</b>		
<b>GRI 102-16:</b> Values, principles, standards, and norms of behavior	31, 35, 47	
<b>GRI 102-17:</b> Mechanisms for advice and concerns about ethics	37	
<b>Governance Structure</b>		
<b>GRI 102-18:</b> Governance structure	13	
<b>GRI 102-19:</b> Delegating authority	13, 14	
<b>GRI 102-20:</b> Executive-level responsibility for economic, environmental, and social topics	13, 14	



Disclosures	Pages	Comments
<b>GRI 102-21:</b> Consulting stakeholders on economic, environmental, and social topics	14	
<b>GRI 102-22:</b> Composition of the highest governance body and its committees		See Annual Report, page 10
<b>GRI 102-23:</b> Chair of the highest governance body	13	
<b>GRI 102-24:</b> Nominating and selecting the highest governance body	13	
<b>GRI 102-25:</b> Conflicts of interest		See Annual Report, page 6
<b>GRI 102-26:</b> Role of highest governance body in setting purpose, values, and strategy		
<b>GRI 102-27:</b> Collective knowledge of highest governance body		See Annual Report, page 11
<b>GRI 102-28:</b> Evaluating the highest governance body's performance		See Annual Report, page 10
<b>GRI 102-29:</b> Identifying and managing economic, environmental, and social impacts	16	
<b>GRI 102-31:</b> Review of economic, environmental, and social topics	14	
<b>GRI 102-32:</b> Highest governance body's role in sustainability reporting	14	
<b>GRI 102-35:</b> Remuneration policies		KUKA only reports on the remuneration of the Executive Board. Information on the remuneration of other management levels is subject to confidentiality agreements and therefore cannot be reported.
<b>GRI 102-36:</b> Process for determining remuneration		See Annual Report, page 15
<b>GRI 102-37:</b> Stakeholders' involvement in remuneration		See Annual Report, page 15
<b>GRI 102-38:</b> Annual total compensation ratio		KUKA only reports on the remuneration of the Executive Board. Information on the remuneration of other management levels is subject to confidentiality agreements and therefore cannot be reported.
<b>GRI 102-39:</b> Percentage increase in annual total compensation ratio		KUKA only reports on the remuneration of the Executive Board. Information on the remuneration of other management levels is subject to confidentiality agreements and therefore cannot be reported.
<b>Stakeholder Engagement</b>		
<b>GRI 102-40:</b> List of stakeholder groups	14	
<b>GRI 102-41:</b> Collective bargaining agreements	47	
<b>GRI 102-42:</b> Identifying and selecting stakeholders	14	
<b>GRI 102-43:</b> Approach to stakeholder engagement	14	
<b>GRI 102-44:</b> Key topics and concerns raised	16	We include the most important issues raised by our stakeholders in our materiality analysis.

Disclosures	Pages	Comments
<b>Reporting practice</b>		
<b>GRI 102-45:</b> Entities included in the consolidated financial statement	4	
<b>GRI 102-46:</b> Defining report content and topic Boundaries	4, 16	
<b>GRI 102-47:</b> List of material topics	17	
<b>GRI 102-48:</b> Restatements of information		There were no new formulations of information in relation to the previous year's report.
<b>GRI 102-49:</b> Changes in reporting		There were no significant changes in reporting.
<b>GRI 102-50:</b> Reporting periode	4	
<b>GRI 102-51:</b> Date of most recent report	April 2018	
<b>GRI 102-52:</b> Reporting cycle	4	
<b>GRI 102-53:</b> Contact point for questions regarding the report	73	
<b>GRI 102-54:</b> Claims of reporting in accordance to the GRI Standards	4	
<b>GRI 102-55:</b> GRI content index	68 – 72	
<b>GRI 102-56:</b> External assurance		There was no external audit of the information in this report.
<b>Material Topics</b>		
<b>GRI 203 Indirect Economic Impact 2016</b>		
<b>GRI 103:</b> Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	20 – 22	
<b>GRI 203-2:</b> Significant indirect economic impacts	20	
<b>GRI 204 Procurement Practices 2016</b>		
<b>GRI 103:</b> Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	31, 33	
<b>GRI 204-1:</b> Proportion of spending on local suppliers	33	Unfortunately, we do not include the share of expenses for local suppliers in the procurement and do not intend to do so in the future, since the cost of obtaining information is not in a reasonable relation to the value of the information.
<b>GRI 205 Anti-Corruption 2016</b>		
<b>GRI 103:</b> Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	35 – 37	
<b>GRI 205-2:</b> Communication and training about anti-corruption policies and procedures	37	
<b>GRI 206 Anti-competitive Behavior 2016</b>		
<b>GRI 103:</b> Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	35 – 36	
<b>GRI 206-1:</b> Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	37	
<b>GRI 302 Energy 2016</b>		
<b>GRI 103:</b> Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	39, 42 – 43, 45	
<b>GRI 302-1:</b> Energy consumption within the organization	44	
<b>GRI 302-5:</b> Reductions in energy requirements of products and services	40, 44	
<b>GRI 303 Water 2016</b>		
<b>GRI 103:</b> Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	39, 44, 45	
<b>GRI 303-1:</b> Water withdrawal by source	45	We do not collect information on the total volume of water withdrawn, but plan to do so in the future.

Disclosures	Pages	Comments
<b>GRI 306 Effluents and Waste 2016</b>		
GRI 103: Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	39, 41, 44	
GRI 306-2: Waste by type and disposal method	45	
<b>GRI 307 Environmental Compliance 2016</b>		
GRI 103: Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	39	
GRI 307-1: Non-compliance with environmental laws and regulations		No such incidents were reported in the year under review. There were also no non-compliance lawsuits of environmental laws and regulations.
<b>GRI 308 Supplier Environmental Assessment 2016</b>		
GRI 103: Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	31–33	
GRI 308-1: New suppliers that were screened using environmental criteria	32	
GRI 308-2: Negative environmental impacts in the supply chain and actions taken	33	
<b>GRI 401 Employment 2016</b>		
GRI 103: Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	47	
GRI 401-1: New employee hires and employee turnover	49	We do not currently collect information on new hires by age group and gender at a global level. The collection of this data at the global level is already planned.
<b>GRI 402 Labor/Management Relations 2016</b>		
GRI 103: Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	47, 57	
GRI 402-1: Minimum notice periods regarding operational changes		KUKA complies with the applicable legal requirements with regard to notification deadlines.
<b>GRI 403 Occupational Health and Safety 2016</b>		
GRI 103: Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	47, 63	
GRI 403-2: Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	63	
<b>GRI 404 Training and Education 2016</b>		
GRI 103: Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	53–55	
GRI 404-2: Programs for upgrading employee skills and transition assistance programs	55	
<b>GRI 405 Diversity and Equal Opportunity 2016</b>		
GRI 103: Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	59 – 60	
GRI 405-1: Diversity of governance bodies and employees	60	For corresponding information on the management bodies, see Annual Report 2018, page 11.
<b>GRI 407 Freedom of Association and Collective Bargaining 2016</b>		
GRI 103: Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	31, 47	
GRI 407-1: Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk		We are not aware of any business locations where the right to freedom of association and collective bargaining could be threatened. As part of our supplier management, we review our suppliers with regard to employment and human rights issues.

Disclosures	Pages	Comments
<b>GRI 408 Child Labor 2016</b>		
<b>GRI 103:</b> Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	31–33	
<b>GRI 408-1:</b> Operations and suppliers at significant risk for incidents of child labor	32–33	
<b>GRI 409 Forced or Compulsory Labor 2016</b>		
<b>GRI 103:</b> Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	31–33	
<b>GRI 409-1:</b> Operations and suppliers at significant risk for incidents of forced or compulsory labor	31–33	
<b>GRI 413 Local communities 2016</b>		
<b>GRI 103:</b> Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	65	
<b>GRI 413-1:</b> Operations with local community engagement, impact assessments, and development programs	65–67	
<b>GRI 414 Supplier Social Assessment 2016</b>		
<b>GRI 103:</b> Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	31–33	
<b>GRI 414-1:</b> New suppliers that were screened using social criteria	32	
<b>GRI 416 Customer Health and Safety 2016</b>		
<b>GRI 103:</b> Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	27, 29	
<b>GRI 416-2:</b> Incidents of non-compliance concerning the health and safety impacts of products and services	29	
<b>GRI 417 Marketing und Labeling 2016</b>		
<b>GRI 103:</b> Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	29	
<b>GRI 417-1:</b> Requirements for product and service information and labeling	29	
<b>GRI 418 Customer Privacy 2016</b>		
<b>GRI 103:</b> Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	24	
<b>GRI 418-1:</b> Substantiated complaints concerning breaches of customer privacy and losses of customer data	24	

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