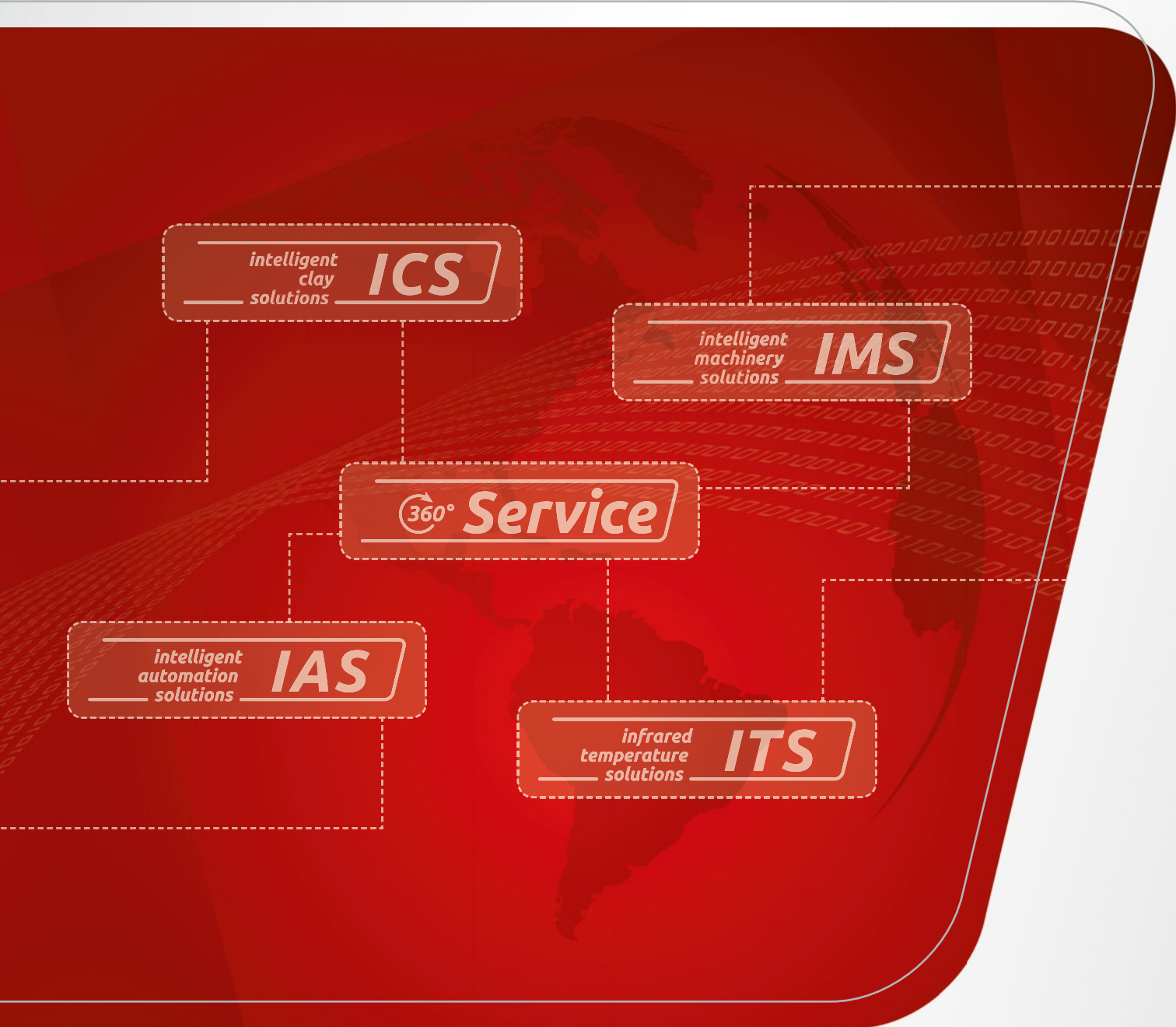


KELLER

Creating Solutions



High-tech solutions from tradition



Prologue

The name KELLER has become an integral part of the heavy clay industry and is closely associated with over 125 years of company history. In the **ICS** business unit (Intelligent Clay Solutions) we produce machines and complete plants, highly complex industrial robot and handling solutions, intelligent automation solutions and technologies for environmental protection that can be found in the brick industry worldwide.

Since KELLER has also been offering machines, products and solutions at the highest level in other industries for many years, the company was reorganised in 2018 with 4 independent business divisions.

The experts of the **IMS** business unit (Intelligent Machinery Solutions) create high-tech solutions across all industrial sectors. Building on our leading expertise in mechanical engineering from the heavy clay industry, our engineers develop highly flexible systems for handling and palletizing processes that contribute to significant process optimization and production cost reduction in a variety of industries.

The **IAS** business unit (Intelligent Automation Solutions) is at home in the bulk materials industry. A highly motivated team plans and realises the complete plant control and visualisation up to order management. KELLER IAS has made a name for itself especially in the field of automation of mills and compound feed plants.

The portfolio is completed by the **ITS** business unit (Infrared Temperature Solutions), which has been developing, producing and selling precision measuring instruments and system solutions for optical temperature measuring systems for more than half a century. These are used worldwide in various industrial branches, as in the steel industry, in foundries and in the glass, cement, ceramic and chemical industries.

The business areas of KELLER are supported by the **SERVICE** area. This has been re-organised and provided with new products to be very close and sustainable to our customers and is therefore a guarantor for the future of our company.



Company overview



intelligent
clay
solutions **ICS**



Heavy clay

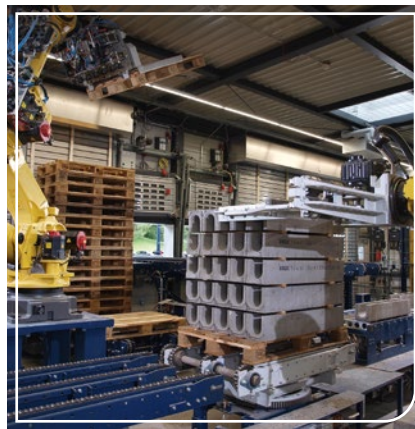
Service range:

- Complete plants
- Automation
- Cutters
- Punchers
- Dryers
- Robots
- Kilns
- Grinding plants
- Ceramic laboratory

Person in charge:

Torsten Bärtels
torsten.baertels@keller.de

intelligent
machinery
solutions **IMS**



Machinery solutions

Service range:

- Robot systems
- Handling solutions
- Process engineering
- Kiln/dryer technology
- Plastics technology
- Machine solutions
- Automation

Person in charge:

Ulrich Hagemann
ulrich.hagemann@keller.de

intelligent
automation
solutions **IAS**



Automation

Service range:

- Automation solutions in the grain milling and compound feed industry
- Switch cabinet construction
- Visualization
- Process control engineering
- Laboratory data management
- Production control system
- Loading management system

Person in charge:

Ulrich Hemesath
ulrich.hemesath@keller.de

infrared
temperature
solutions **ITS**



Optical
temperature measurement

Service range:

- Pyrometers
- Infrared thermometers
- Infrared temperature switches
- Industrial solutions
- Extensive mechanical and electrical accessories

Person in charge:

Albert Book
albert.book@keller.de

360° **Service**



360° Services

Service range:

- Spare part service
- Modifications
- Plant optimisations
- On-site service
- Service contracts
- Maintenance
- Ceramic laboratory
- Seminars

Person in charge:

Michael Schmitz
michael.schmitz@keller.de

Other departments:

Human Resources:

Barbara Sawallisch
barbara.sawallisch@keller.de

Purchase:

Ralf Kolthoff
ralf.kolthoff@keller.de

Marketing:

Yvonne Niemeyer
yvonne.niemeyer@keller.de

The history of the KELLER company

In 1894, the Laggenbeck machinist Carl Keller (1847-1932) invented the finger car. This rather inconspicuous device was the beginning of automation in the brick and tile industry. Keller's realisation that his finger car would have no chance without a functioning dryer system was the impulse for further innovative developments.



The finger car in the test phase. Instead of laths or pallets, they used boards that were placed by hand on the arms of the finger car. Then the bricks were placed and pushed on rails into the drying sheds.



A look at the apprentice workshop from 1886.

Carl Keller first found an Osnabrück-based company as a partner, which patented his finger car and which he authorised to build and market it for 10 years. However, he was not satisfied with the quality of the built finger car and established his own repair shop in Laggenbeck, where he improved it. After the patent use expiration, he took over the production at the Laggenbeck site in 1904. A few years later, the product range had already been extended to rotating and lifting gears, transfer cars and elevators. In 1910, he developed the first fully automatic brick handling machine of type „Hörstel“, a combination of cutter, pallet conveyor and elevator. This was the breakthrough for mechanisation.

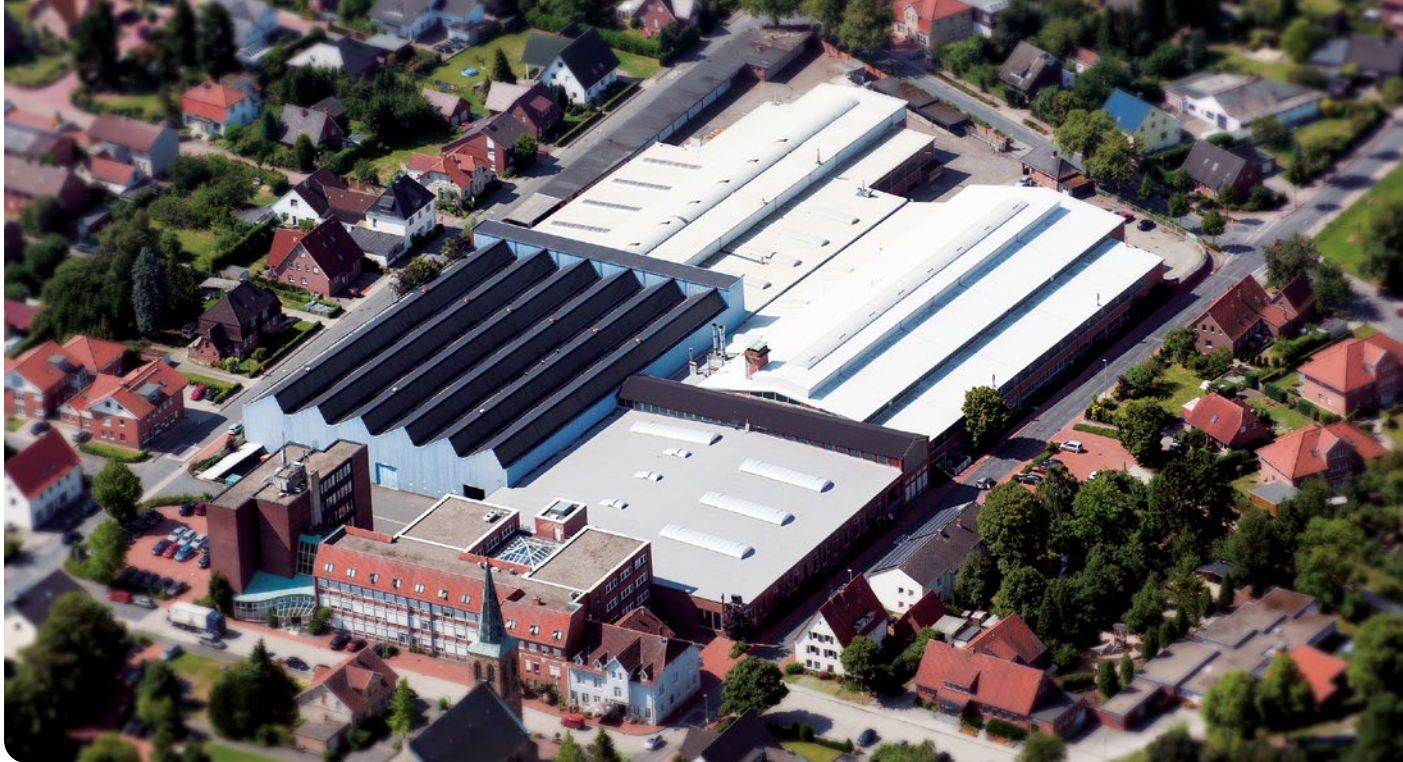
Carl Keller put a lot of his heart and soul into the commercialisation and distribution of his products. He travelled to Russia before the First World War, where the first fully automatic brick handling machine was installed in Astrakhan on the Caspian Sea.

In the context of the reparations that the German Reich had to carry out after the First World War, KELLER supplied machines to North France and Belgium. First machines were also sold to Uruguay and Argentina.

After the difficult years of the Depression at the beginning of the 1930s, business picked up again from that time on. KELLER found its old domestic and foreign markets again and found more and more access to the underdeveloped Southeast European countries.

During the Second World War, KELLER became an armament factory. Russian war prisoners were assigned to the company and the company's own permanent workers had mostly to join the army. A quarter of them were killed in the war.





Aerial view of the factory halls and the administration building in the front area at the Ibbenbüren-Laggenbeck site.

After the reconstruction, the KELLER company achieved a breakthrough and became a globally active machine and plant manufacturer.

In 1954, KELLER founded its sister company named KELLER Spezialtechnik, which developed and manufactured control and measuring systems for dryers, and acquired a majority of the shares of the Pyro-Werk in Hanover, a company that had been producing pyrometers for optical temperature measurements since 1925. In 1971, the administration and production was moved from Hanover to Laggenbeck. In 1977, KELLER Spezialtechnik and Pyro-Werk merged to initially form KELLER Spezialtechnik-Pyrowerk GmbH which became the MSR division in 1990.

In addition to the systematic development and the worldwide sale of pyrometers, the business unit MSR also established its own automation department. The focus of this department lies on control system for plants in the bulk materials handling industry as grain mills or compound feed plants.

KELLER is a commercial, innovative and globally operating company. In addition to the continuous technological developments, the trusting partnership with our customers and their satisfaction are our top priority.

In 2018, the business units were reorganized. We will present you these business units on the following pages.

Since 2006, KELLER is a division of the French Groupe Legris industries.



Machines and plants from KELLER are worldwide in reliable use. The customer-oriented service is therefore constantly checked and enhanced.

Intelligent Clay Solutions (ICS)



Heavy clay

Service range:

- Complete plants
- Automation
- Cutters
- Punchers
- Dryers
- Robots
- Kilns
- Grinding plants
- Ceramic laboratory

Person in charge:

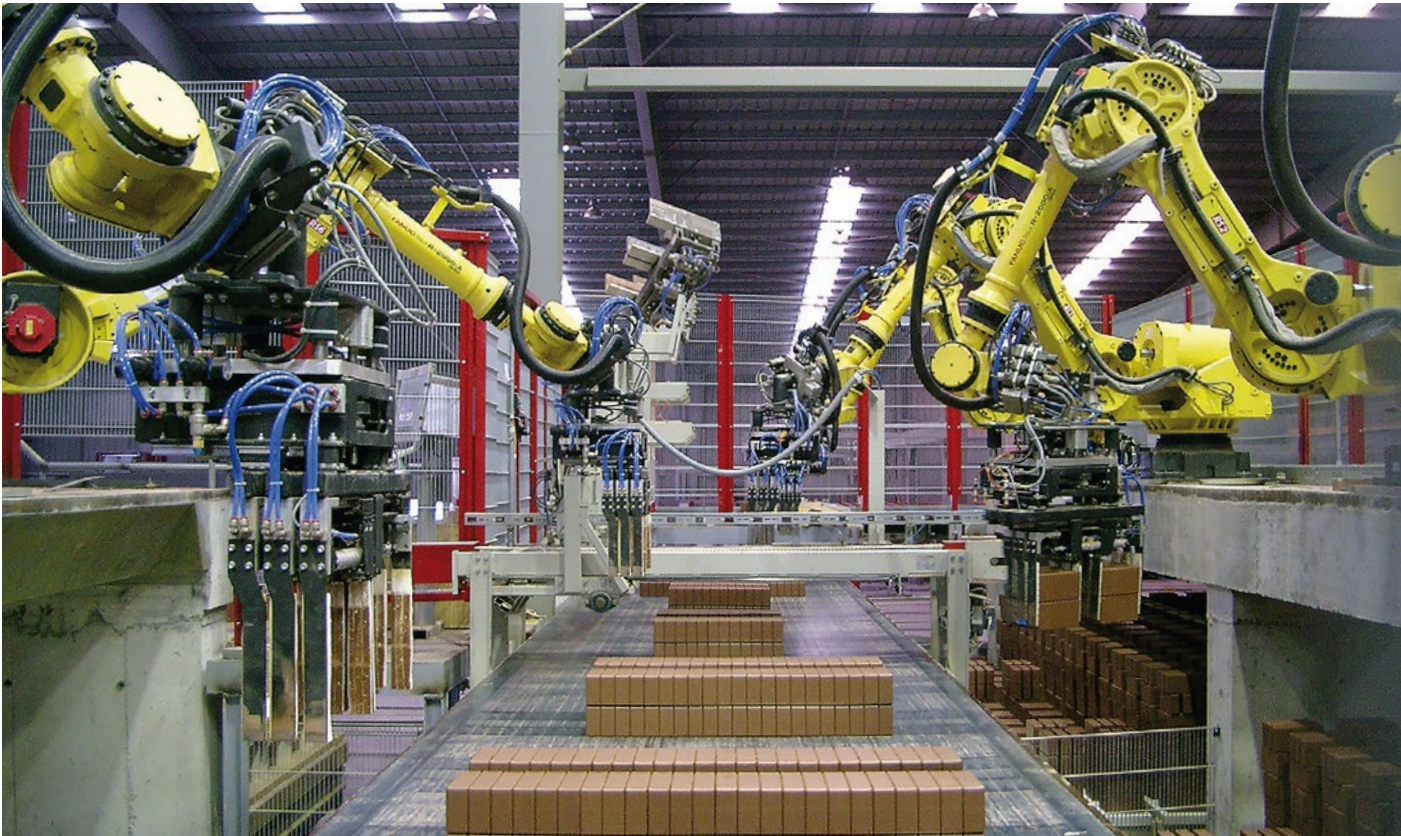
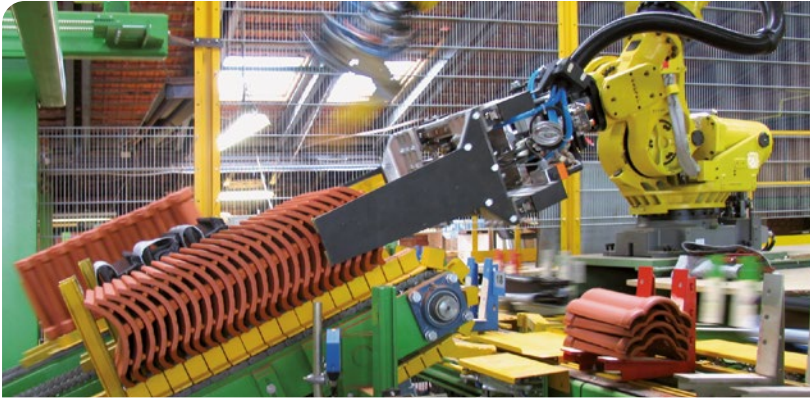
Torsten Bärtels
torsten.baertels@keller.de

The company KELLER looks back on more than 125 years' experience in machinery and plant construction in the sector of Intelligent Clay Solutions (ICS) and therefore belongs to the oldest and most renowned machinery and plant builders for the international building materials industry.

The core competency of the business unit ICS lies in individual robot applications, customised machine solutions, progressive dryer and kiln technologies and complex plant concepts for the heavy clay industry worldwide.

Complex industrial robot applications for industrial fields of application, machine solution concepts, continuous and integrated process and automation technology, energy-efficient drying and firing processes and latest processing steps currently belong to the technological standards of the Intelligent Clay Solutions (ICS).





Intelligent Machinery Solutions (IMS)

Maschinenlösungen

Service range:

- Robot systems
- Handling solutions
- Process engineering
- Kiln/dryer technology
- Plastics technology
- Machine solutions
- Automation

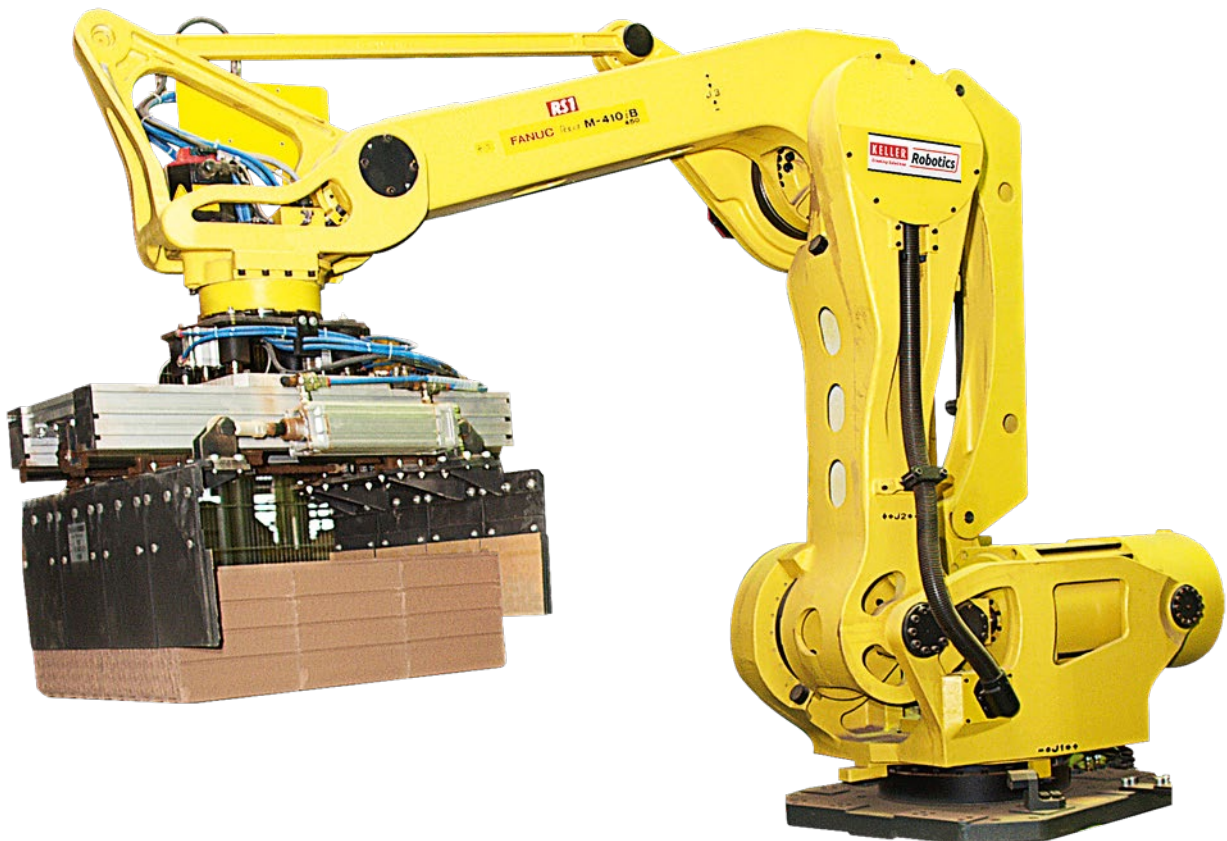
Person in charge:

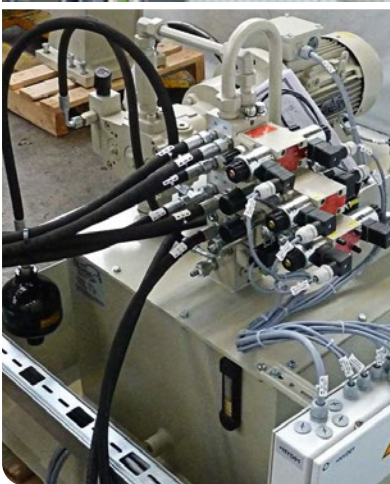
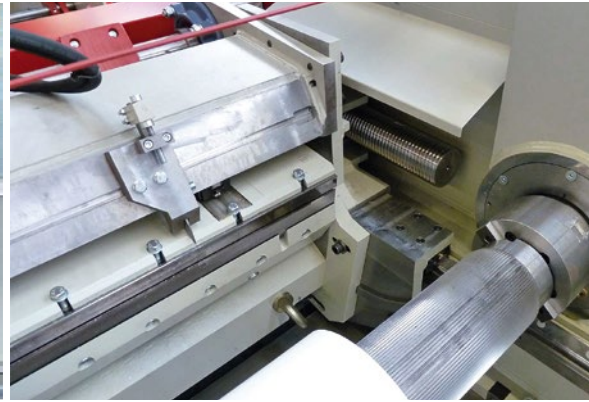
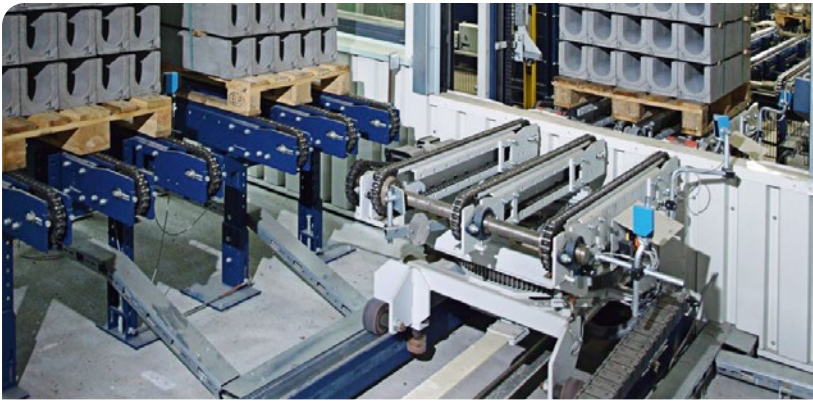
Ulrich Hagemann
ulrich.hagemann@keller.de

The aspiration of KELLER has always been the development of high-quality machines and plants for its customers on the basis of innovative technologies. This guiding principle which is manifested in the corporate slogan "Creating Solutions", is also the focus and driving force for the Intelligent Machinery Solutions (IMS) business unit.

On the basis of our know-how of many years from the heavy clay industry by using the synergies of the broad fields of activity we create highly flexible, machine and robot supported systems for industrial handling and palletizing processes. With high-technological standard solutions in modular design we develop application-specific solutions that can also be integrated into existing production lines. Sophisticated gripper and take-up systems form the basis for the most different types, dimensions and weights of material handling with minimum space requirements. Innovative control and automation systems meet the today's demand on flexibility and security.

Challenge our high level of competence to create an efficient solution for your handling task.





Intelligent Automation Solutions (IAS)

Automation

Service range:

- Automation solutions in the grain milling and compound feed industry
- Switch cabinet construction
- Visualization
- Process control engineering
- Laboratory data management
- Production control system
- Loading management system

Person in charge:

Ulrich Hemesath
ulrich.hemesath@keller.de

The Intelligent Automation Solutions (IAS) business unit is at home in the bulk materials handling industry. Complete control systems for food and feed production are planned and implemented by a highly motivated team. Our core competencies lie in the modernisation and automation of complete plants for the grain, mill and compound feed industry as well as for the pet food industry.

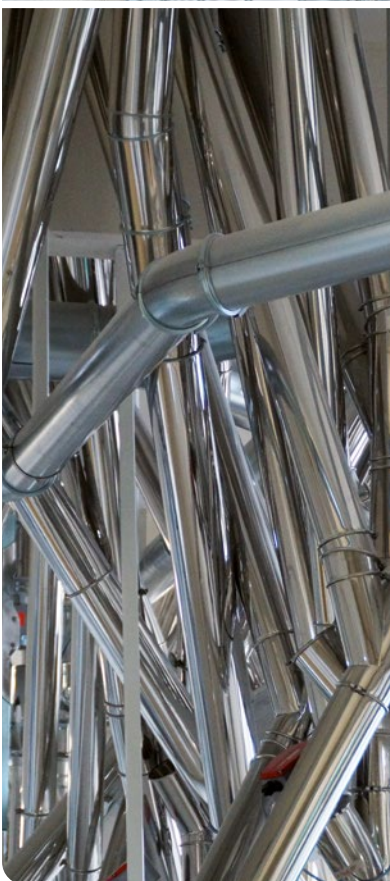
“Fully automated processes and complete stocks”, this distinguishes our efficiency in the bulk materials handling sector. Our two products CellaControl and CellaTrace are clearly in focus.

The CellaControl process control system is used for the control, operation and monitoring of process plants and is based on the standard SIMATIC or TIA-portal components from Siemens. With the modular and scalable architecture of the system, your entire production process can be continuously and safely automated.

In addition to the classic silo management of bulk materials, the CellaTrace production control system also enables the complete documentation of the product processing, including the loading and packaging of the finished products. This ensures a complete traceability of all components.

Our 24 hours on-call service 24/7 provides here a competent and personal support, which is assisted by modern remote maintenance systems.





Infrared Temperature Solutions (ITS)



Non-contact temperature measurement

Service range:

- Pyrometers
- Infrared thermometers
- Infrared temperature switches
- Industrial solutions
- Extensive mechanical and electrical accessories

Person in charge:

Albert Book
albert.book@keller.de

Since 1967, the business unit Infrared Thermometer Solutions (ITS) develops and manufactures precision instruments and application solutions for optical temperature measurements for industrial applications. Today, KELLER ITS is one of the market leaders for infrared thermometers and pyrometers worldwide.

With its very large product range of more than 250 models and systems KELLER ITS offers solutions for all standard applications and a variety of special measuring tasks for process and plant control. Following the KELLER philosophy, the key focus in the development and production of the devices is set to the high measuring accuracy and reliability. Therefore, KELLER grants a warranty of 5 years on its products.

As a result of the constant exchange of our know-how and with our customers and their requirements and thanks to innovative developments, we manage again and again to reassert ourselves as a technology leader.

A global network of distributors and service points ensures competent and personal consultation on site.





360° Service



360° Services

Service range:

- Spare part service
- Modifications
- Plant optimisations
- On-site service
- Service contracts
- Maintenance
- Ceramic laboratory
- Seminars

Person in charge:

Michael Schmitz
michael.schmitz@keller.de

Our KELLER service team is there for you – wherever you are in the world. We make it our task to accompany the life cycle of your machines and plants. Our maintenance proposals and operational optimisations are the cornerstones for this. We offer solutions for your tasks.

It is our mission to ensure that you are satisfied with our machines and plants at all times. We are always by your side – be it in person, online or on site in your company!

Our extensive range of services offers the security for your plant availability and process stability. KELLER offers a 24/7 service throughout the year. Our preventive inspections and predictive maintenance will help you as well as our extensive range of training courses, which will allow to improve the quality of your team. Furthermore, the digitalisation of our machines and plants provides you with the possibility to analyse and evaluate the results of preventive activities to avoid downtimes.

Your needs are our task. The KELLER service stands for reliability, speed and customer satisfaction around the clock.





What we offer

According to our philosophy the people are the basis for our success. We are continuously working on improvements for our employees. Already today, we offer important extras.



Health management

Health occupies a special place at KELLER. To give the best support for our employees we offer a variety of fitness training options in cooperation with Hansefit or we arrange sessions in a local physiotherapy practice.



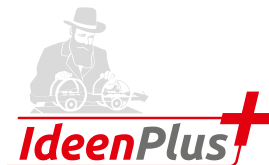
HR-Security

Safety for our employees is not only of the highest priority inside the company building, but also on the construction sites abroad. We protect their safety of our employees on a global scale and assist in the information process before a stay or deployment abroad.



Professional training and development

We are proud of our employees' know-how and provide many opportunities for development in many directions. We support our employees by offering them individual training courses and also promote internal knowledge sharing.



IdeenPlus (Idea Management)

Ideas for improvement developed by our employees are valuable for the success of the company. Therefore, we appreciate and reward them. 'Ideen Plus' is a user-friendly idea management tool which ensures a structured follow-up of ideas of employees and the efficient implementation in the company within our continuous improvement process.



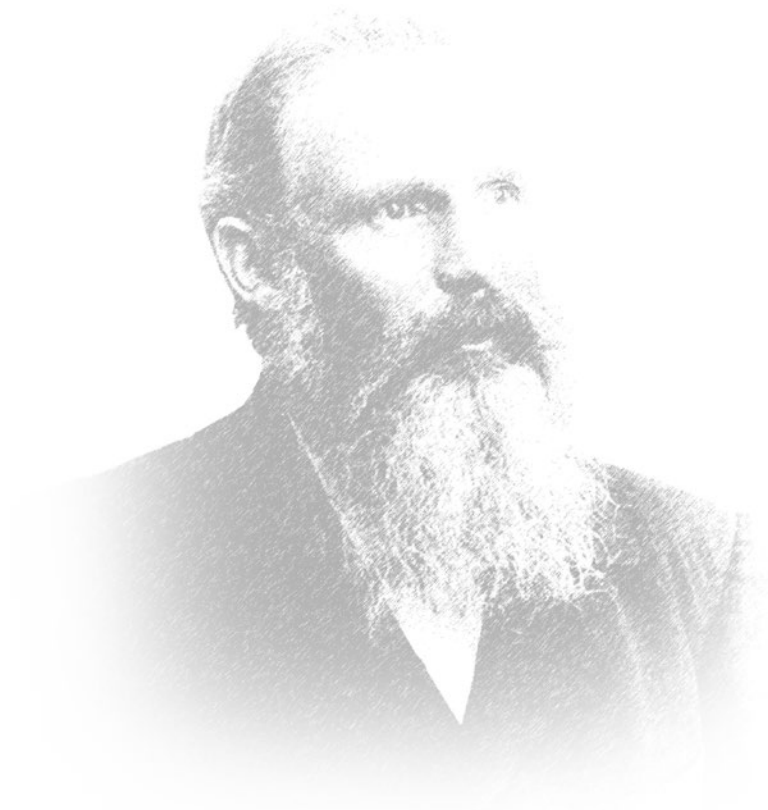
Emergency association

The Notgemeinschaft (emergency association) is a social initiative „from employees for employees“ that gives some financial support to colleagues in an emergency or hardship situation.



Social commitment

Social commitment is a long-standing tradition for KELLER and its staff. We support events as sponsors for social projects and are getting a very positive response from our staff in this respect.



High-tech solutions from tradition

KELLER

Creating Solutions

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KELLER A DIVISION OF **GRUPE LEGRIS INDUSTRIES**