Simply more productive.
How robots optimize machine tools.

100 %

utilization of machine tool potential: maximize productivity with KUKA robots.

Source: Hermle AG

How can you offer extremely short delivery times with machine tools? And, at the same time, ensure profitable and highly efficient production of even highly complex components?

KUKA has the solution: with robot-based automation that gives the productivity of your machine tools a decisive boost. You will always keep up with the ever more demanding quality requirements on the workpieces to be machined. You can also perform downstream tasks, such as assembly. At the same time, you remain flexible with regard to the ever decreasing intervals between technical modifications.

Increased productivity will help you to counter the steady fall in prices effectively. Without having to compromise on quality. KUKA robots provide consistently high precision, enabling even the tightest of delivery deadlines to be met with ease.

Boost your ROI with KUKA automation

- Produce more quickly and more efficiently
- Reduce rejects and shorten production time
- Improve utilization of your machine tools
- Enjoy availability of 99.995%

Develop a new dimension of quality

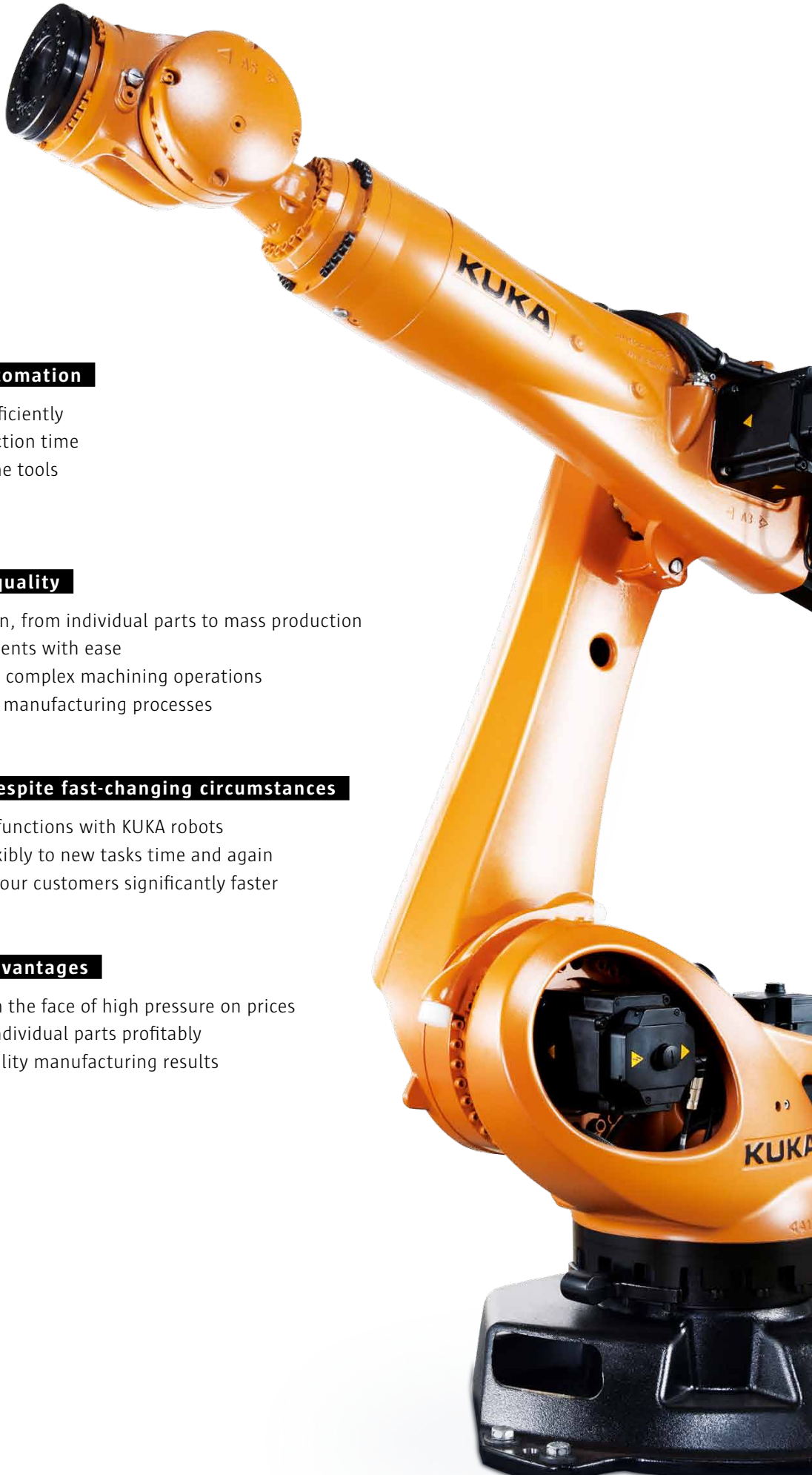
- Manufacture with greater precision, from individual parts to mass production
- Implement rising quality requirements with ease
- Master even small workpieces and complex machining operations
- Integrate additional tasks into the manufacturing processes

Maintain high performance despite fast-changing circumstances

- Cover all important machine tool functions with KUKA robots
- Adapt KUKA robots quickly and flexibly to new tasks time and again
- Reduce lead times and deliver to your customers significantly faster

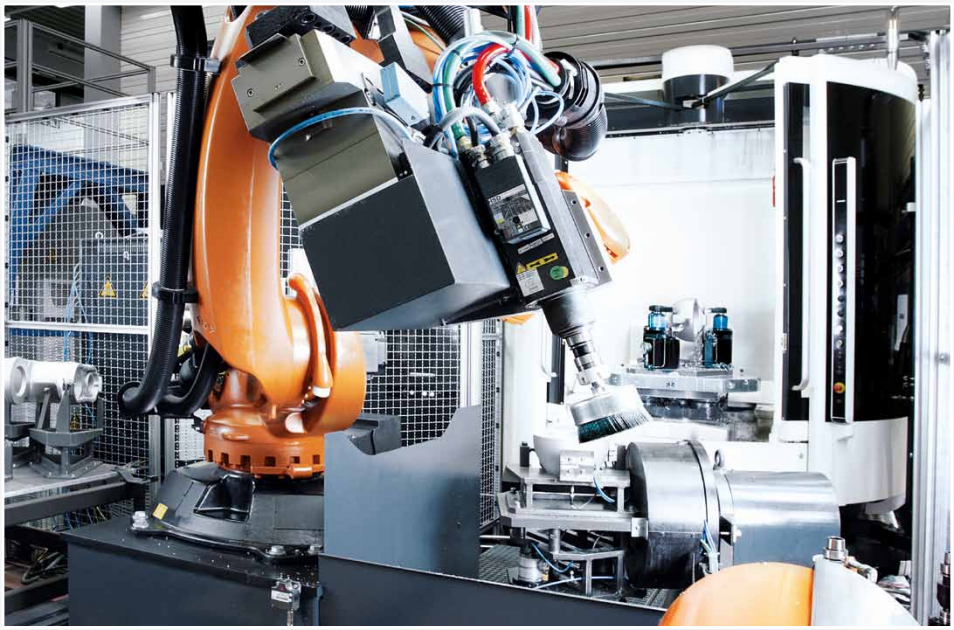
Gain valuable competitive advantages

- Acquire new room for maneuver in the face of high pressure on prices
- Produce small batches and even individual parts profitably
- Convince customers with high-quality manufacturing results



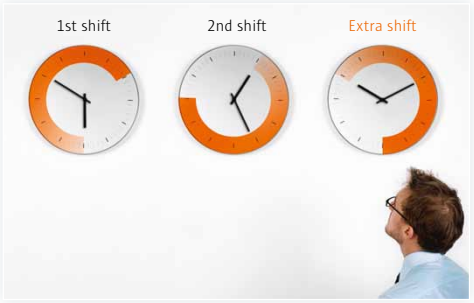
17%

shorter machining time: with KUKA robots, you gain valuable time. 24 hours a day.



17 % shorter machining times

Where the accuracy of the machine tool is not required, the robot takes over tasks such as drilling, brushing and deburring, thereby reducing the spindle run time per part. In KUKA's own production, this cuts the machining time per component from 48 to 40 min. That means a 20% increase in machine productivity. On components requiring intensive machining, the robot can also carry out roughing, leaving the machine to take care of the finishing alone.



KUKA robots: working for you non-stop

Where productivity is concerned, every second counts. KUKA robots enable you to fully exploit the potential of your machine tools day and night. In KUKA's own production, a robot extends the operating time of a machining center from 16 hours a day to 24 hours without extra manpower. Boosting productivity by no less than 50%.

50% higher throughput due to operation around the clock

0%

need to adapt:

personnel and machine understand

KUKA robots immediately.

Operation without robotics expertise: thanks to KUKA.PLC mxA

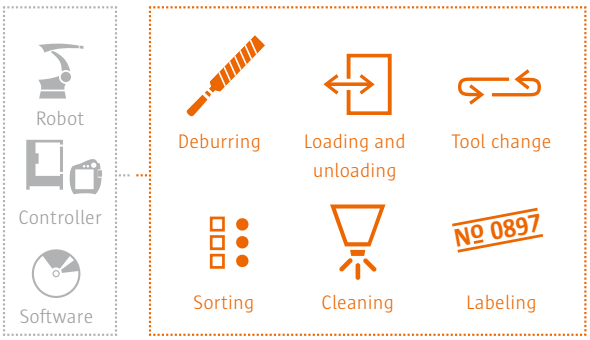
The conventient, universal interface makes KUKA robots extremely easy to operate. Interacting with the Sinumerik Run MyRobot software package from Siemens®, KUKA.PLC mxA allows a KUKA robot teamed up with a machine tool to be visualized, operated, programmed and set up in the same system that the user is familiar with from the machine tool environment. And all this using the machine tool's control panel.

Reduced to what's necessary: for productivity without the need for training

With the Zenon HMI software package, a simple user interface can be created on the touch screen of the KUKA smartPAD, offering only those functions that users require for their everyday work. No searching, no extensive training.

Ready for immediate use: familiar interface for fast programming

KUKA robots perform machining tasks like machine tools – and can be programmed like them too in G-code (DIN 66025) thanks to the KUKA.CNC interface. Users understand them straight away, can create programs using a CAD/CAM process chain and, after simulation, execute them on the robot without having to compile them into the robot language. Already included: tool radius correction, sister tools and many other familiar CNC functions.



Use the QR code and see the robots in motion.

KUKA robots: all-rounders in the world of machine tools.

There is potential for productivity and profitability in every manufacturing step. With KUKA robots, you can exploit this potential. They enable you to automate a wide range of processes – such as marking and measuring workpieces, as well as quality control in the machine during the manufacturing process. You can increase productivity still further by linking different machines by means of a robot. This enables you to exploit your capabilities to the full.

Freedom of motion:
Even confined machine spaces and access doors pose no problems for the streamlined arms of KUKA QUANTEC robots.

Tool change:
In the case of large-scale tool magazines, robots support the handling of tools, e.g. in the "Tool Arena" of KUKA system partner Demmeler. This means there are no limits to your productivity even where 400 tools or more are required.

Space-saving:
Fully integrated robots, like here in the automation cell of Dreher AG, make automation possible in the smallest of spaces. Automated in 0.5 m² with the highly dynamic KUKA KR Agilus.

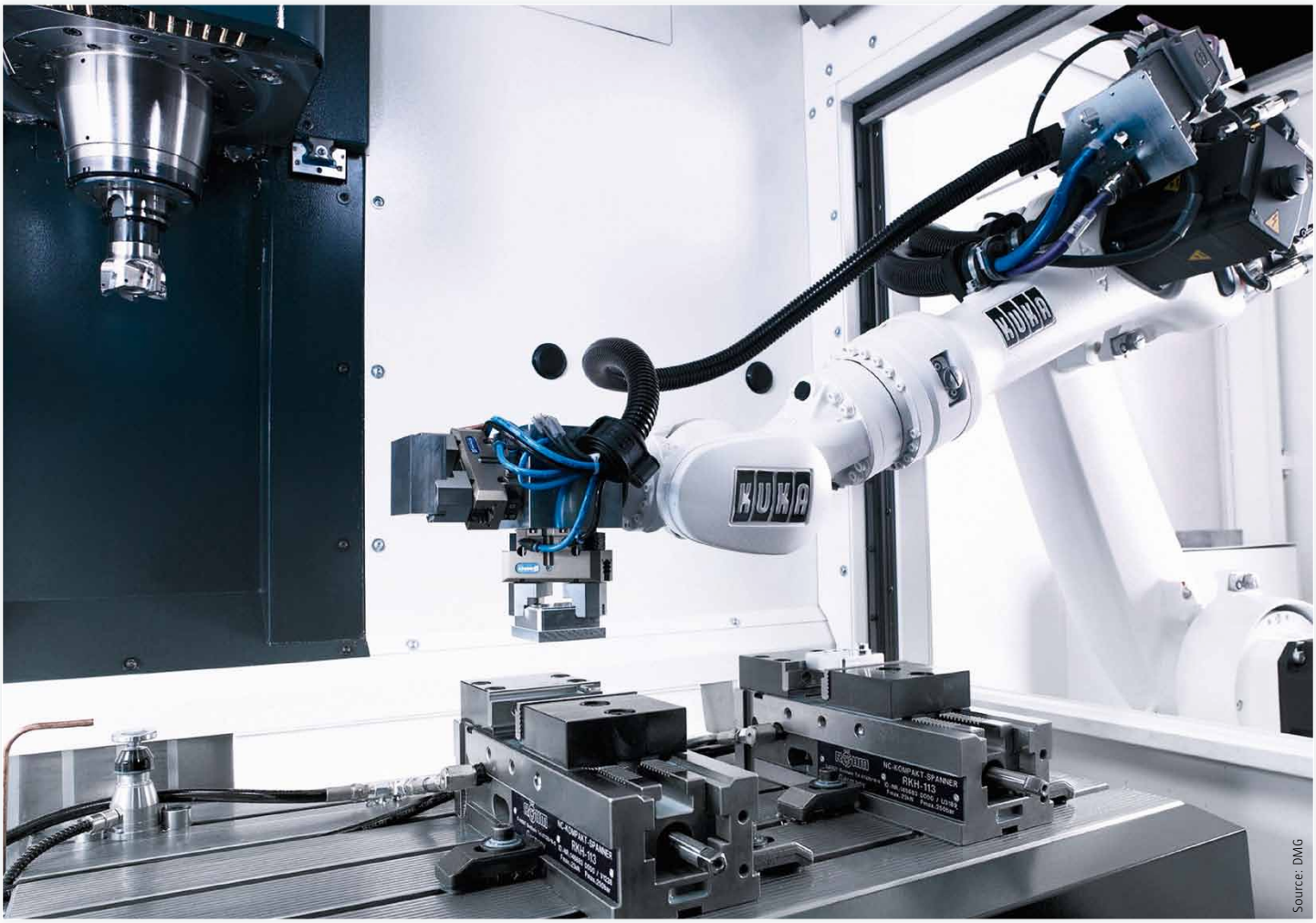
Measuring:
Integrated measuring stations in the automation cell provide almost instantaneous information about the machining quality.

Quelle: Hermle AG

Machining from 6 sides:
On this DMG machine with two clamping stations, the workpieces are machined from no fewer than six sides.
The robot loads and unloads the workpieces, moving each one to the optimal machining position.

Loading and unloading:
With the KUKA QUANTEC robot installed directly above the machine, virtually no additional space is required for the automation. That allows unrestricted access to the machine from all sides, as shown here impressively with a Okuma machine.

Pallet handling:
Even the smallest of batches down to a batch size of 1 can be productively automated with robots; by using pallets and zero-point clamping systems, like in this cell from Hermle, for example, for parts weighing up to 1,000 kg.



Source: DMG

5 KUKA robot families. And everything that makes your machine tools more efficient.

KR AGILUS series

The series of small robots with unparalleled performance at the highest of speeds is also available as a waterproof-variant.

KR 16-2

With its minimized disruptive contours and streamlined design, it saves valuable space and reaches any point, even in confined spaces.

KR 360-3

It masters payloads up to 500 kg and a pose repeatability of ±0.08 mm. Precision handling of even heavy work-pieces is thus no problem.

+

Intelligent accessories

KR C4 and KR C4 compact robot control system

Both cabinet designs fit perfectly into existing machine environments. The open architecture places virtually no limits on technical integration.

KUKA teach pendant: KUKA smartPAD

Enables simple, intuitive operator control of complete systems via touch panel with context-sensitive floating windows.

KUKA is a one-stop supplier of everything that is needed to make machine tools more productive. All the components harmonize with each other perfectly, making the transition to automation even smoother. KUKA robots support you in machining workpieces, loading/unloading, inspection operations, lifting heavy loads or bridging extremely wide gaps. The robot and controller can be selected and combined with function and technology packages to meet your individual requirements while minimizing investment costs.

KR QUANTEC series

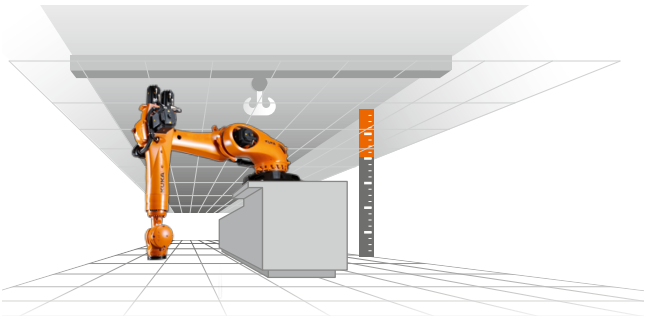
The KR QUANTEC series stands for maximum dynamism, extreme stiffness and performance, combined with low weight and streamlined design.

KR QUANTEC K series

KUKA shelf-mounted robots are designed for an especially large downward reach, optimally accessing the workspace from above.

KUKA function and technology packages

They give robots the capability of performing the functions relevant for your industry within an automation solution.



Integrated safety

KUKA robots are monitored in their workspace by means of safe software. Safety enclosures are reduced to simple and inexpensive access protection.

KUKA
COLLEGE

Robotics training in over 20 training centers worldwide

The KUKA College in your vicinity provides first-hand practical experience and teaches the necessary technical knowledge for working with the robot.

KUKA – Your strong partner.

Quality made in Germany, creativity and the utmost commitment to customers: at KUKA, this has been the basis for decades of exceptional technology, helping you to decisively optimize your processes. We were the pioneers in the world of robotics, and now we are global leaders in innovation.
Our passion is finding future-oriented solutions to make even complex automation tasks simple. Whatever you want to do, and whatever the specific task involved: you can implement it with KUKA. And thanks to close cooperation with our experienced KUKA system partners, that applies to every industry. We strive to turn your ideas into reality. Use our edge to drive your success.

Machining center from Burkhardt + Weber, automated with a KR 500 in KUKA's in-house production.

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