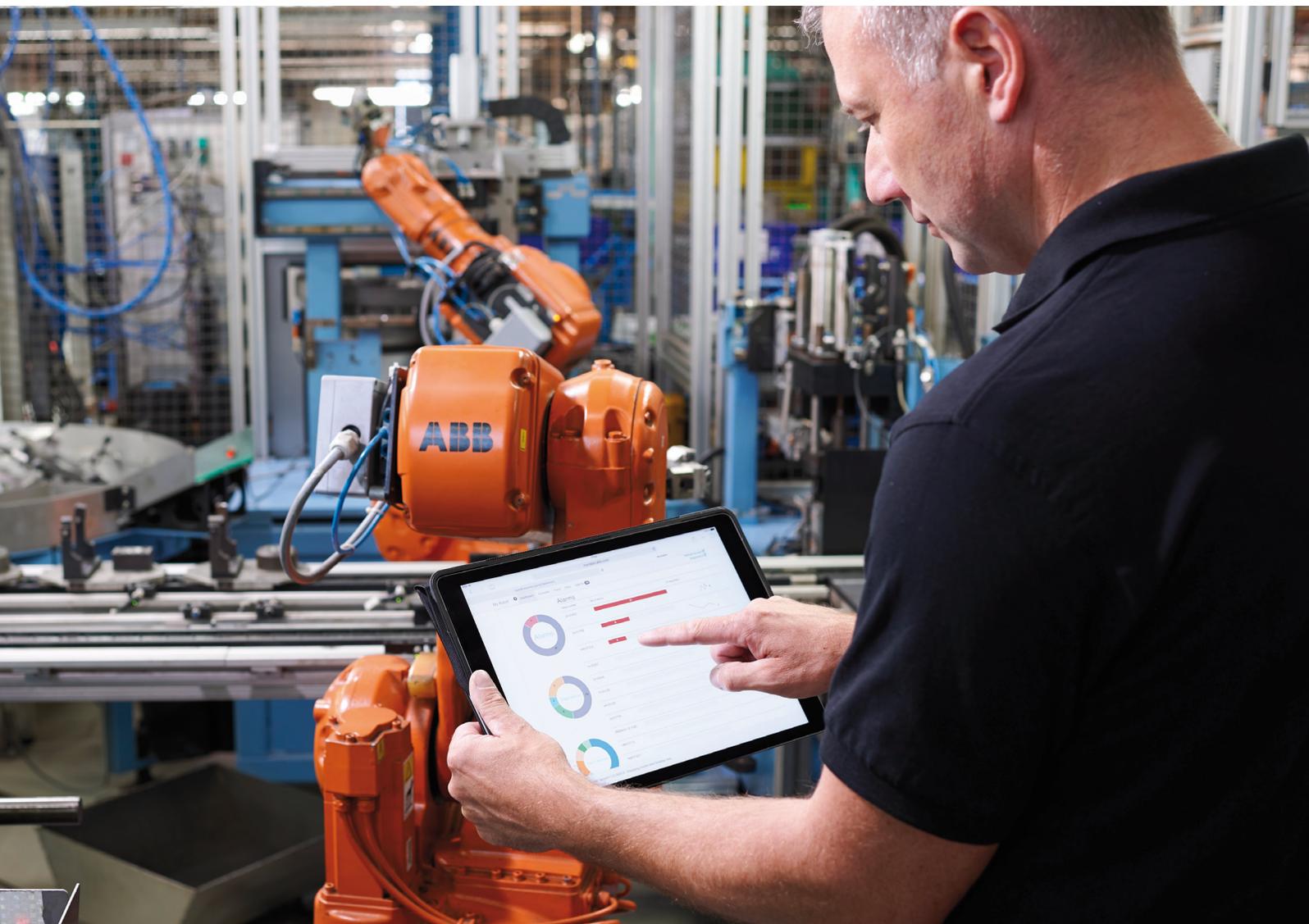


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CASE STUDY

**KOKI**

# ABB Ability™ Connected Services



# ABB Ability™ Connected Services helps keep KOKI in high gear

As a global leader in gear systems whose customers demand just-in-time delivery, KOKI depends on reliability and uptime from its fleet of 60 robots. The German company, founded in 2003, makes precision gear shifters and boxes for some of the world's leading automakers.

KOKI has a strong commitment to continuous improvement and innovation, as well as lean production. As part of this commitment, the company challenged ABB to find new ways of improving robot availability and productivity. It decided on the production site of Glauchau, Germany, which had experienced issues in the past. ABB was already supporting KOKI with service for its welding robots, which included annual maintenance as well as rapid response time for on-site issues. ABB proposed connecting one of KOKI's welding robots in Glauchau to ABB's Condition Monitoring and Diagnostics, part of ABB Ability Connected Services.

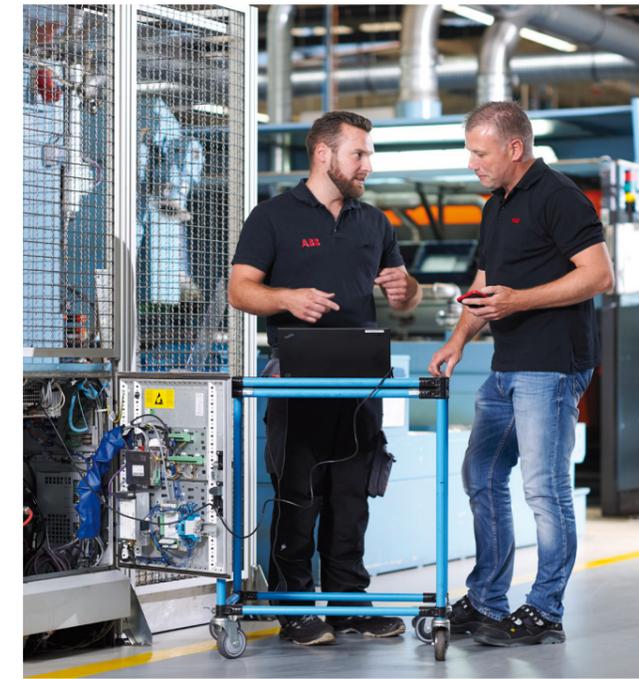
01 Based on the positive experience, KOKI has connected all their 60 robots to ABB Ability Connected Services.

**Digital services increase competitiveness**  
 ABB began connecting its robots to advanced services in 2007, and today some 7,000 ABB robots are connected to the ABB Ability Connected Services platform, at more than 750 customer sites, in 40 countries, with more than 40,000 robots delivered with embedded connectivity. Every new ABB robot can be connected to the Internet of Things to unlock leading digital technologies for greater performance and reliability. Condition Monitoring and Diagnostics is a secure service that monitors the condition of robots around the clock and alerts users to situations which could lead to unplanned



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02 An IRB 140 in a material handling application  
 03 Thanks to ABB Ability Connected Services, unplanned stops and failures can be prevented



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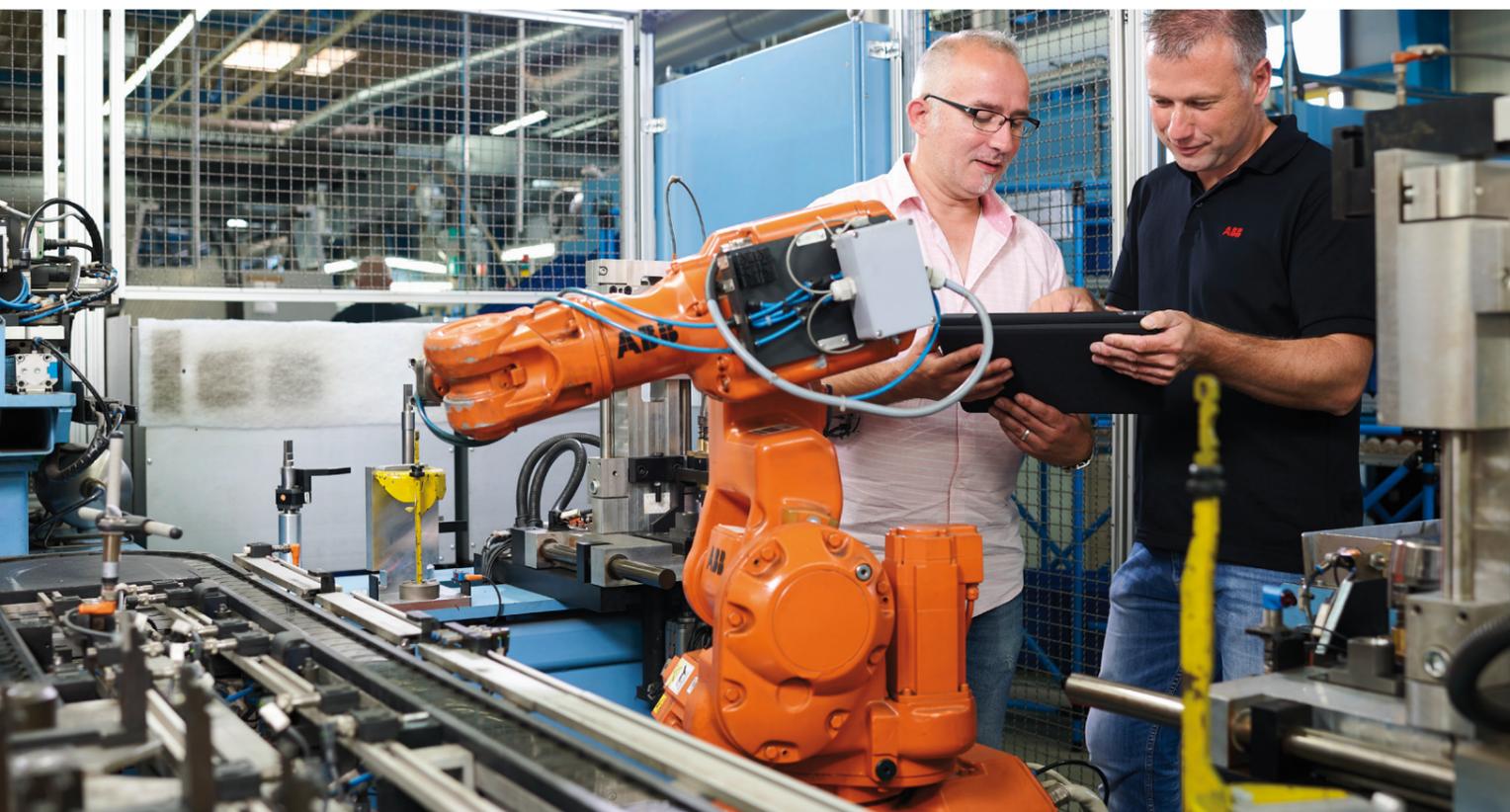
down time. It can send alarms by e-mail or SMS in case of critical issues, or provide actionable data to operators through an intuitive web-based application. This data can also be used to better prepare service experts for more efficient on-site visits, for example giving them a snapshot of the system at the point of the failure.

During the course of the year, ABB's Condition Monitoring and Diagnostics detected conditions which could have caused the robot to shut down, and were able to proactively alert KOKI so the problem could be addressed before a problem occurred. For many manufactures, the cost of downtime has dramatically increased the past several years. Experts estimate that it costs over \$1 million an hour to have an unplanned stoppage at a large automotive factory. Given the just-in-time delivery expected by many of KOKI's customers, a welding robot failure can have severe consequences to its commitments. In the past KOKI often had to convert another cell with the same robot model to duplicate the lost production, a time intensive process with risks.

**Data evaluation increases availability and lifetime**  
 Based on this positive experience, KOKI has connected all their 60 robots to ABB Ability Connected Services. KOKI's entire manufacturing process

benefits from the new options that are available through the networked ecosystem. Via ABB Ability Connected Services and the data derived from it, ABB can carry out condition based maintenance and inspection more effectively. Ad hoc repair tasks can also be planned quickly and precisely together with KOKI using live data. This allows activities to be prioritized, supporting the efficiency and smooth running of the most important customer processes. The connected robots can also provide intelligence to benchmark the performance of their entire fleet and identify and correct underperforming robots. "During audits, automotive manufacturers ask us how we can guarantee the safety of the systems. Robot maintenance, monitoring, service and support all play an important and decisive role here," underlines Sven Sparmann, Site Manager for Maintenance, Repair and Overhaul at KOKI in Niederwürschnitz, Germany.

"The approach is very practical, and we are informed in advance. Error detection allows us to carry out adjustments when production has stopped, without interrupting the production process," enthuses Sparmann. "We'll be linking all new robots – both at our domestic and international sites – to ABB Ability Connected Services, that's quite clear," Sparmann concludes.



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