Machining processes with high complexity and quality requirements require constant quality inspection. Early detection of tool-wear or defects is currently ensured by the following:

- Frequent in-process quality testing
- Preventive exchange of tools to avoid low surface quality due to tool wear

This leads to:

- Low degree of automation, suboptimal yield, machine utilization and avoidable downtime
- Non-optimal utilization of tools and avoidable costs

Your Challenges in Complex Machining Processes

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We Offer You Condition Monitoring in Machining as a Solution

To enable customized solutions, we install a sensor system for condition monitoring in machining. With the continuous measurement of the process variables combined with machine learning (ML) algorithms, we pave the way for high-quality detection and prediction of tool wear, surface quality and imminent tool faults. For this purpose, an on-board feature extraction and prognostic ML algorithms of non-invasive measurements, such as acoustic emission, vibration or supply current, is integrated.

Our Key Features:

- Retrofittable installation of non-invasive measurements with standard components
- Interoperability with existing industrial fieldbuses
- Edge-computing in existing automation and monitoring systems to ensure flexible connectivity, real-time control, data optimization and intelligent decision-making
- High-speed data recording at moderate transmission bandwidths thanks to local and real-time processing of short- and long-term data, which is essential for real-time decision-making and execution control
- On-board prognostic ML algorithms
Smart Sensors Looking Ahead of Time

We Are Looking Forward to Improve Your Machining Process!

Application Scenarios in Machining and Beyond

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Benefits:
- Optimal tool utilization
- Reduced downtime and risk of rework
- Increased safety
- Secure, highly available industrial IoT
- Improved plannability

Contact

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