



PROBLEM/ISSUE ADDRESSED

Manufacturers strive to produce parts with high precision and surface quality, and aim for a low failure rate, at the lowest possible price. To ensure optimized machining parameters for flexible production and high quality, there is a need to monitor the condition of the tools used in the ongoing machining process.

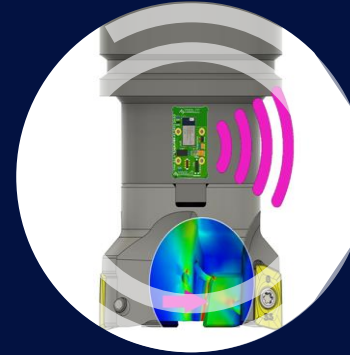
SOLUTION

We sense temperature and force directly at individual cutting teeth of milling heads. Therefore, we can detect deteriorations in the workpiece or the condition of a cutting edge and apply in-process-control.

WHY IT IS IMPORTANT FOR SOCIETY

The solution enables the European manufacturing industry to be flexible and competitive by data-based machining optimization. Furthermore, it increases the attractiveness for shopfloor personnel, enables training of new personnel and know how transfer based on measured values.

“ Thanks to EIT we were able to provide a 6th sense to machine operators ”



MAIN RESULTS & INSIGHTS



- Instrumented milling head for versatile and wireless application
- Measurement of global acceleration, as well as force and temperature measurement near the individual cutting edges
- In-process-monitoring and -adaption



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InToFlex project

AIM: Flexible production systems for competitive manufacturing via sensor-integrated tools