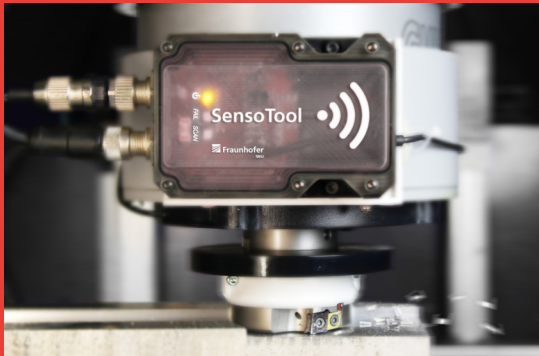




# Fraunhofer ADAPTRONIK

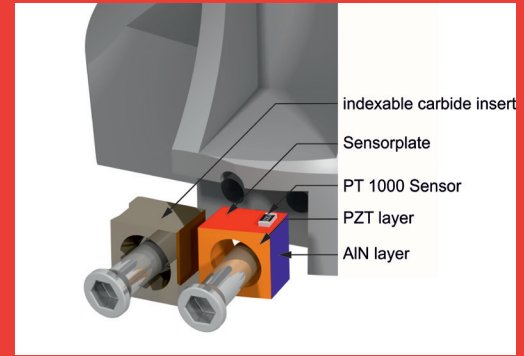
## FRAUNHOFER ADAPTRONICS ALLIANCE

1



1 Total system in use

2



2 Exploded view of the sensor system

## SENSOTOOL WITH INTEGRATED CUTTING FORCE AND TEMPERATURE MEASUREMENT

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### Challenge

Modern manufacturing processes are characterized by an increasing degree of complexity. Smallest deviations of individual parameters can lead to the destabilization of the whole process. For adapting the process parameters, in-process sensors are needed which are currently not available on the market.

### Innovation

- piezoelectric layers as a force sensor in direct vicinity of the indexable insert milling tool
- measurement data acquisition and data preprocessing directly on the tool
- wireless data transfer and power transmission between tool and machine

### Advantages

- sensor layers due to low layer thickness more easily integrable
- wide measuring range from a few newton up to 3 kilonewton
- highly dynamic, in-process measurement system
- no impact on the stiffness of the tool and the seat
- wireless data transfer and power transmission

Filtering and digitization directly done on the tool

### Our service offer

Development of wireless, in-process measurement systems for customer specific applications



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