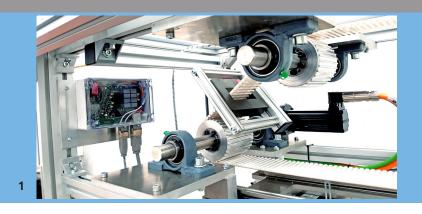


### FRAUNHOFER ADAPTRONICS ALLIANCE





- 1 power supply module © SAZ GmbH
- 2 energy extraction module © SAZ GmbH

# WIRELESS ENERGY AND DATA TRANSMISSION TO SYSTEM COMPONENTS

# Fraunhofer Institute for Machine Tools and Forming Technology IWU

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### IN COOPERATION WITH:







## Challenge

For the optimization of production processes, sensors and actuators close to the point of action are required. Components that are difficult to access, moveable or encapsulated make the connection to conventional wired systems difficult or even impossible. Therefore, it is not possible to measure and control relevant process variables.

### **Application example**

A gripper positioned by a toothed belt is supplied with power and data without a trailing cable. To achieve this, electrical energy is transmitted wirelessly to conductors within the belt. This reduces the moving mass of the overall system and thus increases the dynamics.

### **Benefits**

- Retrenchments in terms of batteries, cables and installation space as well as plug and loop contacts
- Can be used in completely dustproof and waterproof housings
- Increased component lifetime due to elimination of calibration work after battery change
- Enabling wireless sensor tools and components

### Our range of service

- Development of flexible wireless energy transmission systems for different power ranges
- Integration of wireless components in machines, systems and tools
- Energy harvesting solutions for energy self-sufficient components

