Sensor and Systems for Industry 4.0

(FEIM – **F**uture **E**lectronics for **I**ndustry 4.0 and **M**edical 4.0 project)

Objectives of the Project

Development of advanced sensor systems and control electronics using environmentally friendly materials and additive manufacturing, supporting the digital and green transformation of industry in line with Industry 4.0 and the Czech National Recovery Plan.

Topics covered by the Project

- Research and development of sensor and electronic systems using novel materials
- Flexible and rigid printed sensors for industrial automation and smart textiles
- Ceramic-based 2D/3D sensor structures and selective layer deposition
- Sensors for automotive industry, electromobility, and environmental monitoring
- Integration with IoT, wireless power supply, RFID tracking, and energy harvesting

What will the Project Results enable?

- Smarter production lines using integrated sensor systems
- Sustainable manufacturing with waste-reducing technologies
- Safer and more efficient transport systems with smart components
- Real-time data via IoT/cloud-connected sensors
- Long-life, autonomously powered sensors in structures

Selected Results

- Structural interior element with integrated electric heating and feedback temperature measurement for transport technology
- RFID system for tracking the movement of goods in the logistics chain
- Device for recording the mental state of production line operators from communication device cameras during dialogue with virtual avatars
- Wireless power supply/charging module for embedded sensors
- Sensor system based on fiber-optic diffraction elements with cloud data processing

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Partners involved:

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More about FEIM project can be found on projects webpage.

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