



CYBERNETICS

Preferred Topics:

HORIZON-CL4-2023-TWIN-TRANSITION-01-02	HORIZON-CL4-2023-TWIN-TRANSITION-01-42
HORIZON-CL4-2023-TWIN-TRANSITION-01-04	HORIZON-CL4-2023-TWIN-TRANSITION-01-43
HORIZON-CL4-2023-TWIN-TRANSITION-01-07	HORIZON-CL4-2023-TWIN-TRANSITION-01-45
HORIZON-CL4-2023-TWIN-TRANSITION-01-31	HORIZON-CL4-2023-RESILIENCE-01-05
HORIZON-CL4-2023-TWIN-TRANSITION-01-36	HORIZON-CL4-2023-RESILIENCE-01-33
HORIZON-CL4-2023-DIGITAL-EMERGING-01-12	

Ideas for the project:

- Testing the research objectives from different fields in conditions of our industrial partners
- Unique sensors design and development
- Automation and diagnostics in production process
- Numerical simulation of logistics operations and procedures on virtual model of production line
- Development and integration of tools for processes digitization and quality evaluation systems of continuously manufactured products
- Centralization of data from the production line
- Development of new sensors for additional data acquisition
- Datamining processes with usage of AI
- Use of AI in quality control process
- Sensitivity analysis for finding relevant interlinks in the production process

Infrastructure offered:

- o More than 200 m² of relevant laboratories
- o Workstations for long term simulations
- o Laboratories for electronic circuit development and testing
- o Infrastructure for numerical and physical simulations

Recent projects solved, related to the issue:

- o Development and verification of new technology of industrial automation and digitization of the production process of zinc pigments, obtained by recycling and utilization of waste
- o Advanced diagnostics and adaptive autonomous control and measurement systems at robotic production sites
- o Sensor measurement of pedestrian roads in the urban environment to support the mobility of people with disabilities
- o Development of test and application equipment for HMI (Human Machine Interface) devices
- o Advanced devices for autonomous mobile machines

Active participation in relevant associations:

- o Cluster WASTen
- o Automotive Industry Association
- o Czech Society for Mechanics

Digital Innovation Hubs:

- o South Bohemian Science and Technology Park

Examples partners for case studies of research objectives in real industrial conditions:

MOTOR JIKOV Strojírenská a.s., COREZINC s.r.o., KERN s.r.o., MULTICORE s.r.o., TRINECKÉ ŽELEZÁRNY, a. s., PKS servis spol. s r.o., T.W.I. spol. s r.o., AUFEER DESIGN, s.r.o., AJKA - SOLUTION s.r.o., Campus energy spol. s r.o., ITB Engineering & Production s.r.o.

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