



Łukasiewicz

Przemysłowy

Instytut

Automatyki

i Pomiarów PIAP

**Lukasiewicz-PIAP Cluster4:Digital,
Industry capabilities.**

Jan Piwiński

Business developer manager

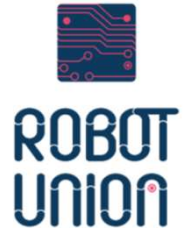
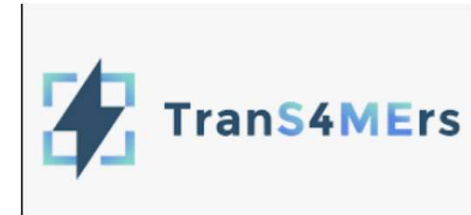
Łukasiewicz –PIAP: **RTO**, system integrator, mobile robots producer, 300 workers.

Technology Centre (Robotics, Automation, CPS, embeddedAI).
Digital Innovation HUB. EDIH. EFFRA member.
Industry 4.0 National Contact Point



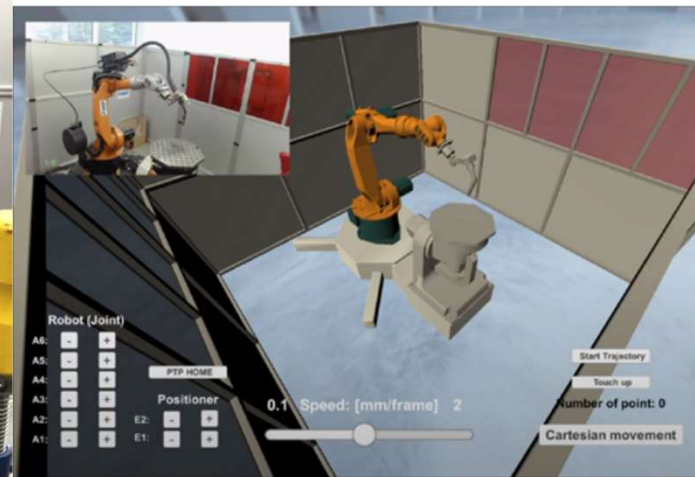
International cooperation

- Horizon 2020 funded **Digital Innovation Hub**
- **EDIH** Mazovia
- EIT-ManufacturingHub Poland
- EIT-Manufacturing member
- **ADMA** TranS4MErs contact point
- I4MS contact point
- Member of DIH networks (robotics, manufacturing, AI)
- Member of Partnerships and Alliances (robotics, IOT, manufacturing)



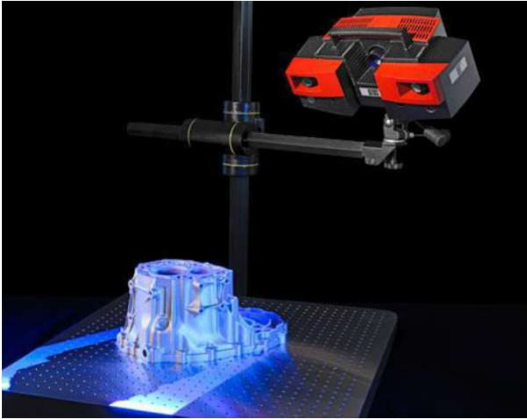


Digital Twin: CPS for remote programming an industrial station for Wire Arc Additive Manufacturing (WAAM).



Technology of a digital twin in virtual reality.
Increases the safety of employees and enable remote cooperation with robots

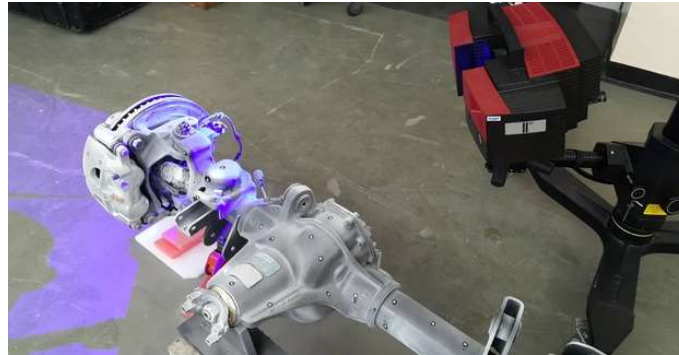
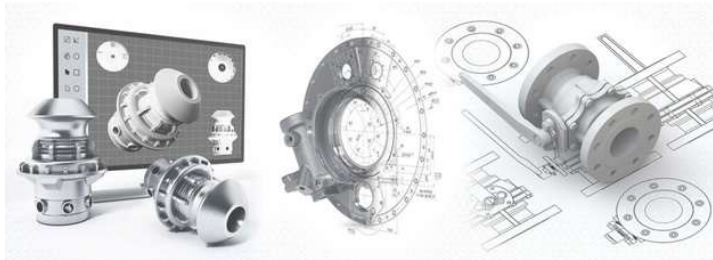
Production of parts using industrial **3D printing** from any kind of materials - from polymers to metals and their alloys.



Industrial Inspection System

Designing prototypes dedicated for target manufacturing technology

Quality control in relation to CAD



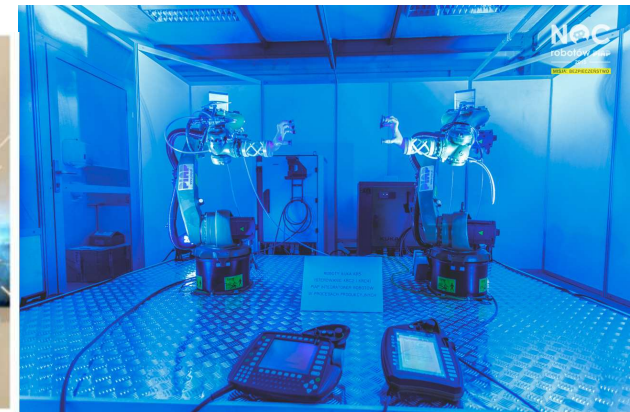
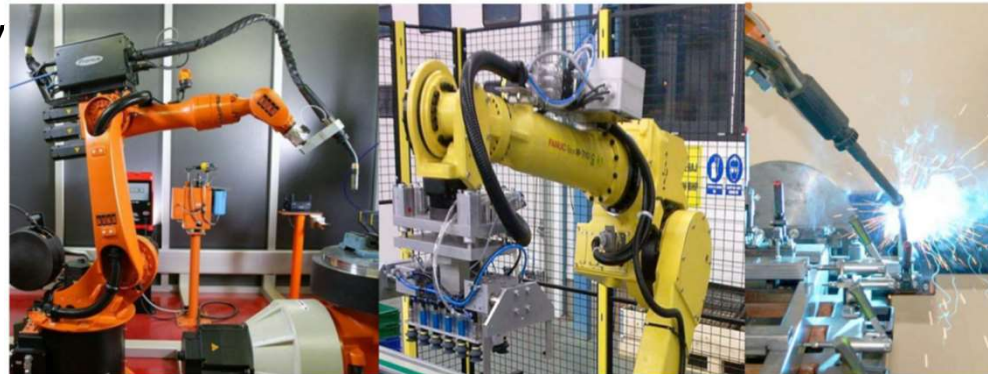


Lukaszewicz
PIAP

Robotics applications for manufacturing SMEs

Capabilities to optimise the manufacturing processes in following applications:

- palletising, depalletising,
- welding, bevelling (including plasma bevelling),
- assembly, handling,
- transport between stations,
- packaging,
- weighing out and batching,
- coating, grinding





Research interest

Remanufacturing of both components and products towards full circularity, while retaining value or functions of component:

- Production lines upgrade with **advanced machinery, robots**, etc.
- **Additive manufacturing** for remanufacturing
- Remanufactured product Quality control & testing.

Manufacture as a Service (MAAS) - **Sustainable and Agile Manufacturing AI control.** Design of context aware digital twins. Manufacturing through the incorporation of AI-enabled concepts and tools.

Circularity (recycling and recovery of materials) - **Circular Economy** technology for efficient recovery of high-value materials by **robotized disassembly of electronics waste**. Aluminum alloys, steel alloys, copper, magnets with REE (Rare Earth Elements).

We are looking for partners and Coordinators to the 2024 Calls.



Research interest (2)

Call topics

HORIZON-CL4-2024-TWIN-TRANSITION-01-03: Manufacturing as a Service: Technologies for customised, flexible, and decentralised production on demand (Made in Europe Partnership) (RIA)

HORIZON-CL4-2024-TWIN-TRANSITION-01-05: Technologies/solutions to support circularity for manufacturing (Made in Europe Partnership) (RIA)

HORIZON-CL4-2024-DIGITAL-EMERGING-01-03: Novel paradigms and approaches, towards AI-powered robots– step change in functionality (AI, data and robotics partnership) (RIA)

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HORIZON-CL4-2024-HUMAN-01-06: Explainable and Robust AI (AI Data and Robotics Partnership)

HORIZON-CL4-2024-HUMAN-01-07: Collaborative intelligence – combining the best of machine and human

HORIZON-CL4-5-6-2024 – robotics/I4.0/FSTP /'Made in Europe'/ ,Factories of the Future'

Jan Piwiński

Organization and Department: Łukasiewicz-PIAP

Country: Poland

Tel/E-mail/Web:

+48 501 143 616

jan.piwinski@piap.lukasiewicz.gov.pl

<https://piap.lukasiewicz.gov.pl/en/services/>