

**MADE IN EUROPE 2026**

**HORIZON-CL4-2027-01-MAT-PROD-03**

Presenter:

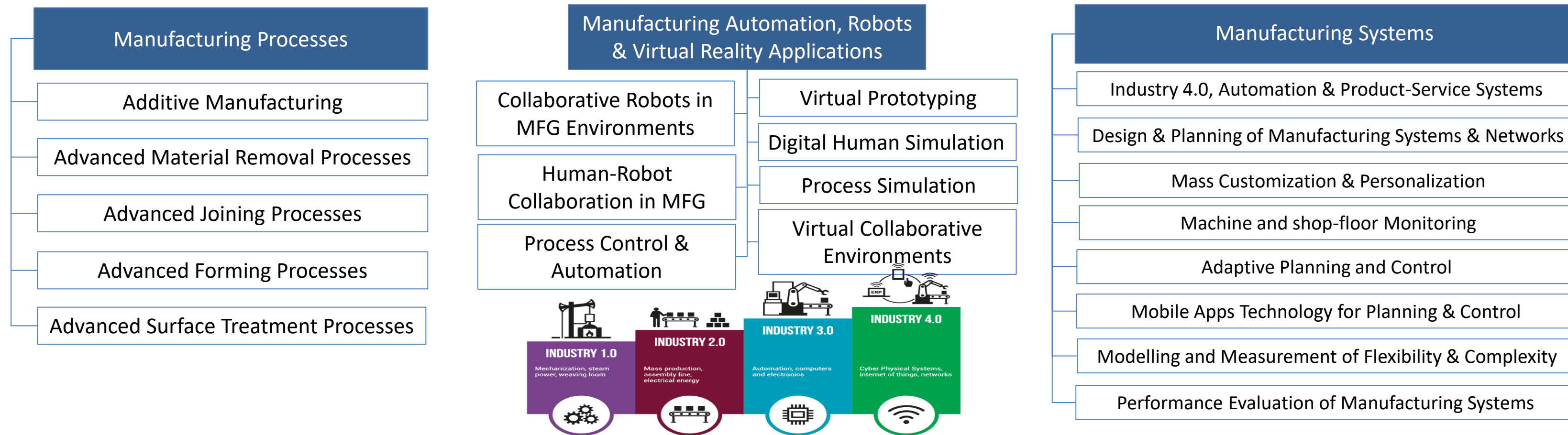
**Apostolis Papavasileiou**  
**Project Manager**  
**LMS, University of Patras**

**23 June 2026**

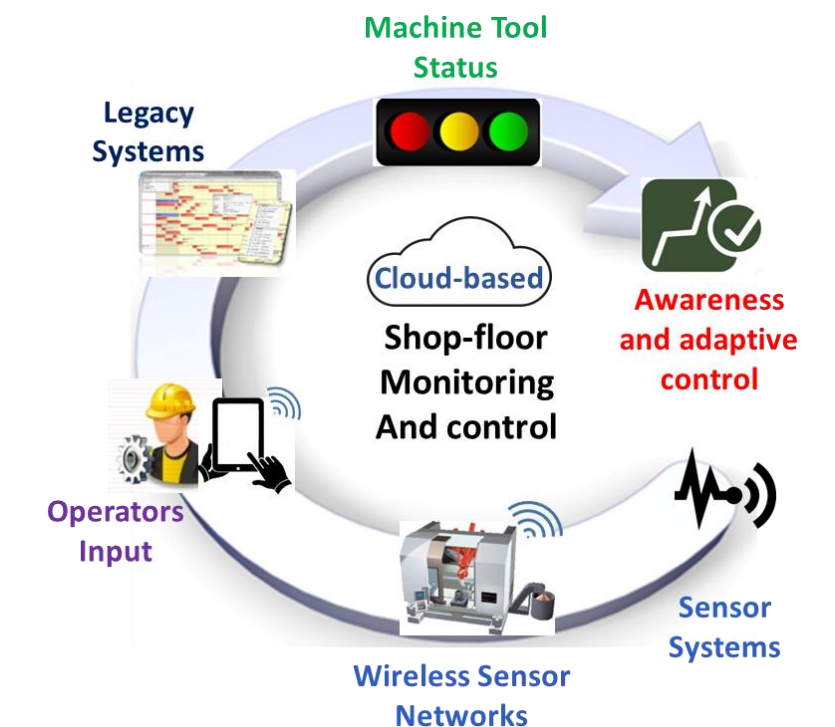
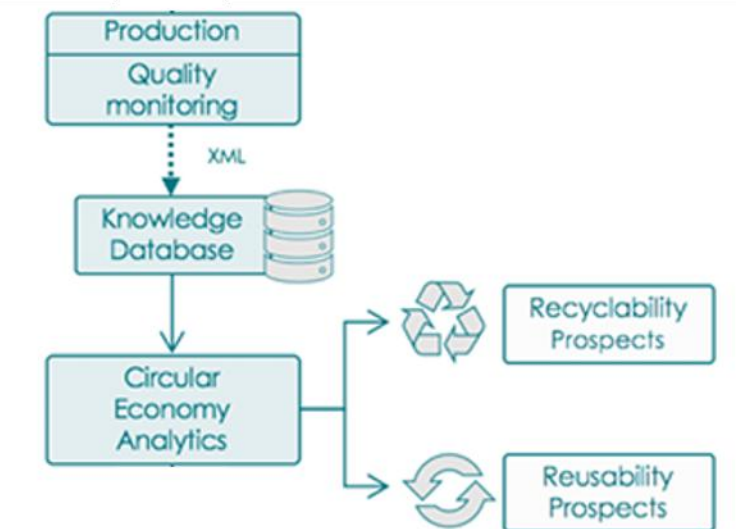
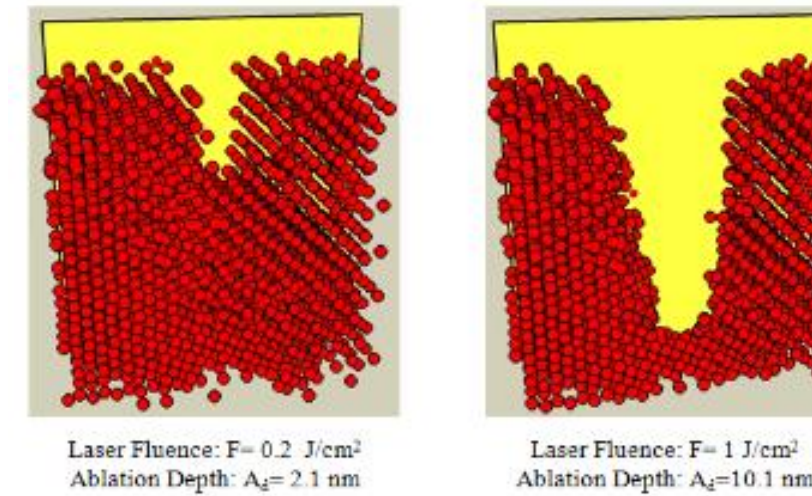
The **Laboratory for Manufacturing Systems & Automation (LMS)** is oriented on research and development in cutting edge scientific and technological fields. LMS is involved in a number of research projects funded by the EC and European industrial partners. Particular emphasis is given to the co-operation with the European industry as well as with a number of "hi-tech" firms.

- Participation in multiple R&D Projects
- Organization of International conferences
- Publication of numerous Scientific articles

## Areas of Expertise: LMS is organized in Three Different Groups

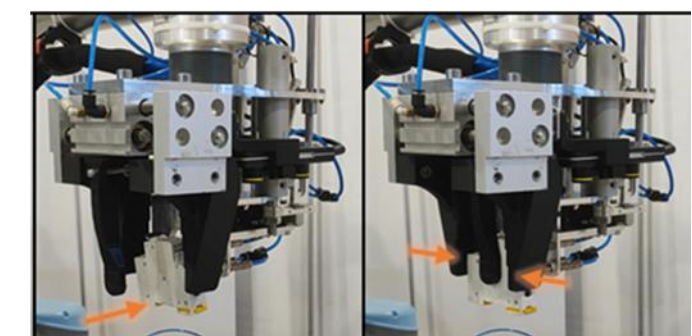
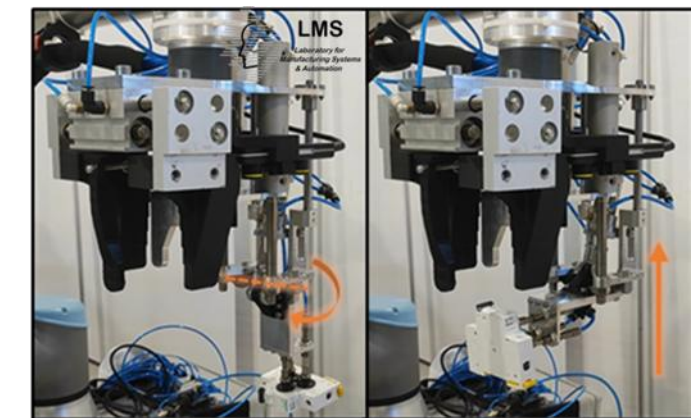
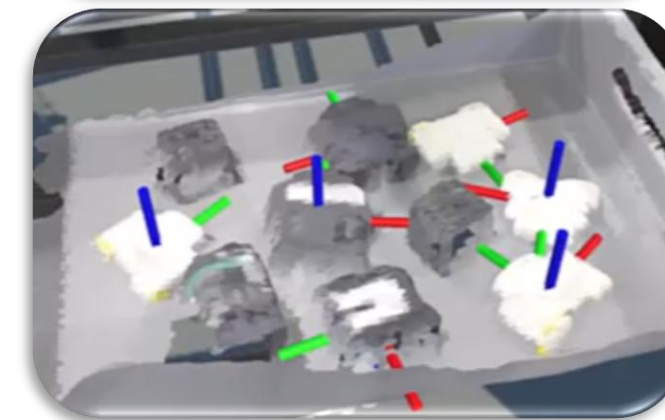
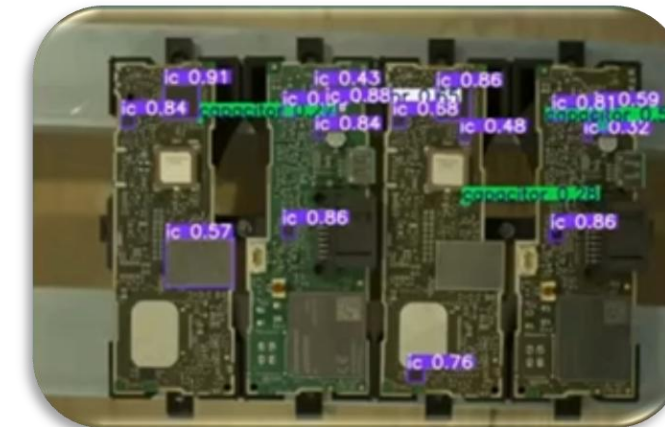
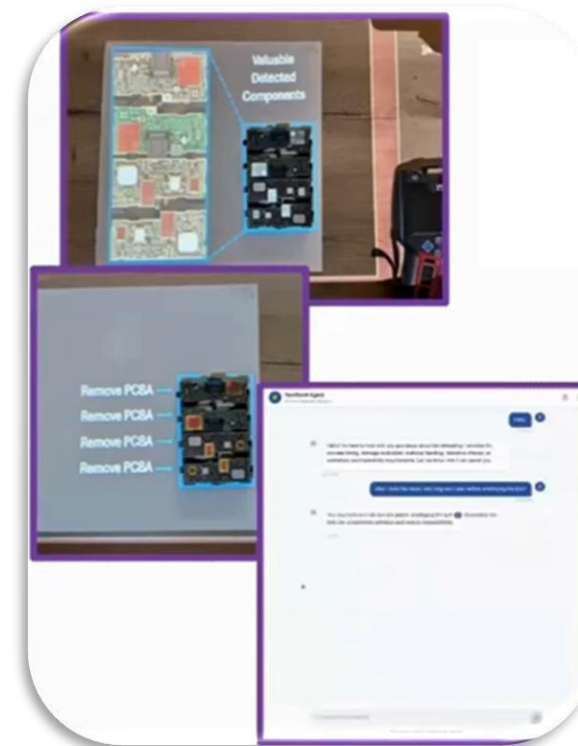
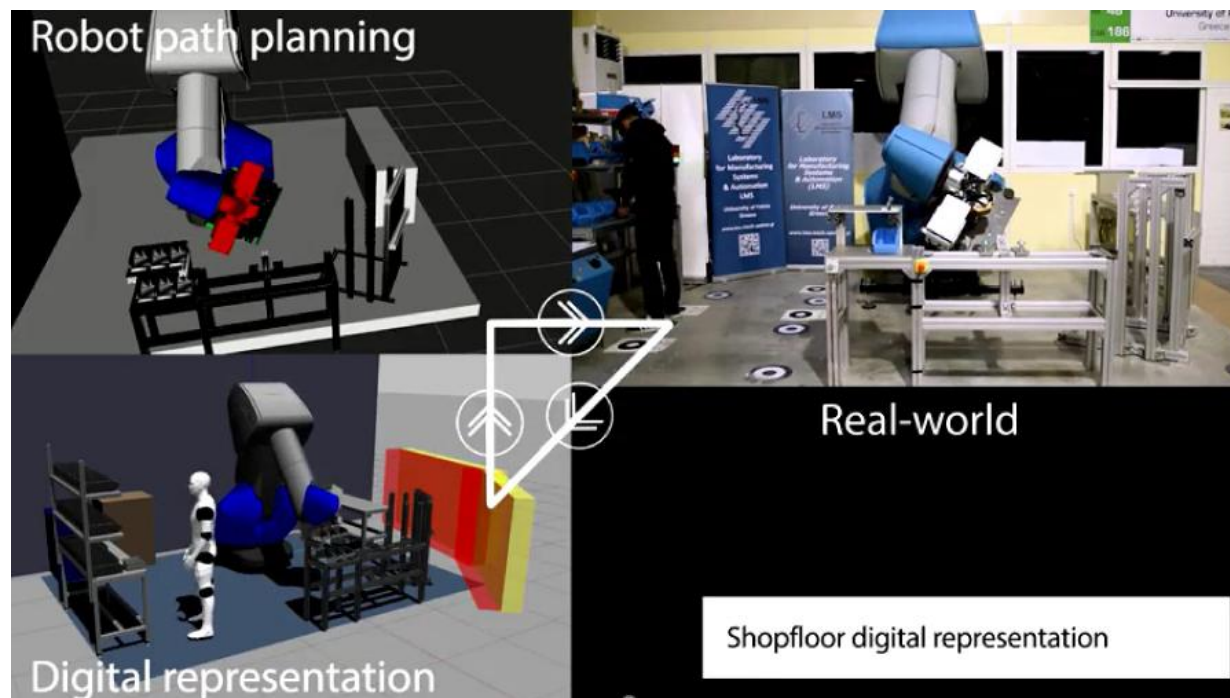


- Manufacturing processes Group
  - Simulation of manufacturing processes
  - Processing of innovative materials
  - Monitoring and control of manufacturing processes
  - Environmental impact of manufacturing processes
  - Circular Economy and decision-making
  
- Manufacturing Systems Group
  - Industry 4.0, Automation & Product-Service Systems
  - Design & Planning of Manufacturing Systems & Networks
  - Mass Customization & Personalization
  - Machine and shop-floor Monitoring
  - Adaptive Planning and Control
  - Mobile Apps Technology for Planning & Control
  - Modelling and Measurement of Flexibility & Complexity
  - Performance Evaluation of Manufacturing Systems

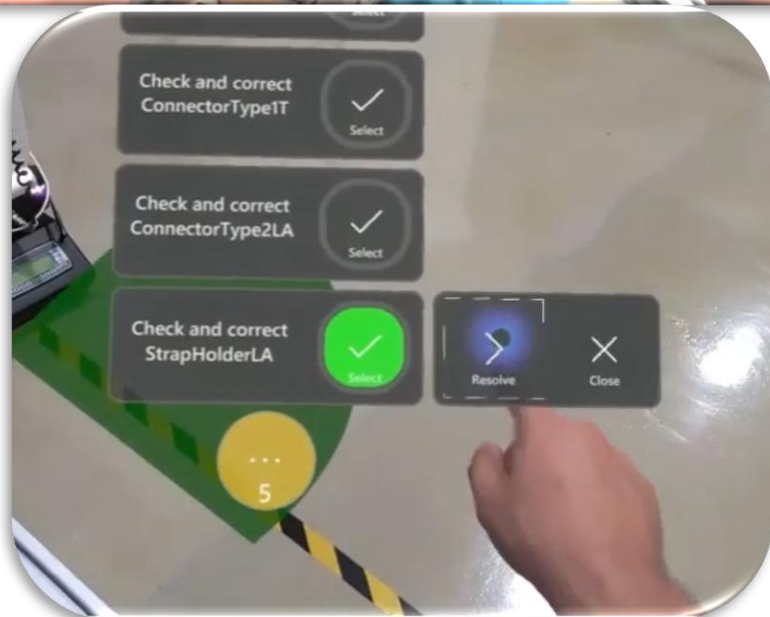
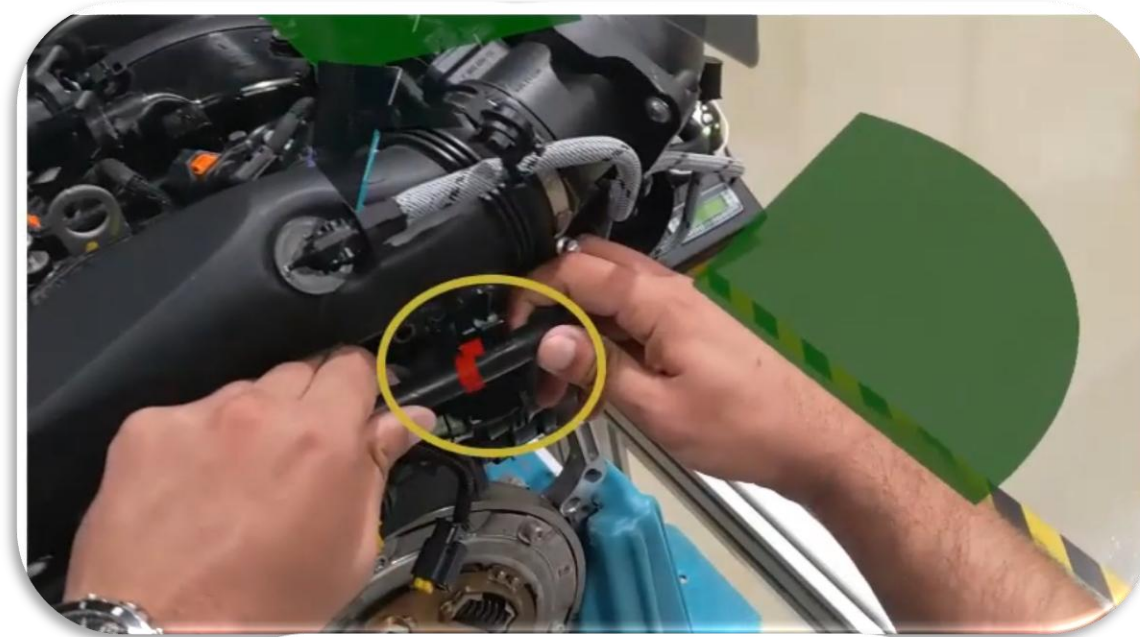


## Manufacturing Automation, Robots & Virtual Reality Applications Group

- Industrial Robotics and Dynamic Digital Twins
- Robotic end effectors for dynamic handling
- Robot cognition in re-demanufacturing
- AI-driven perception for collision free dismantling
- Deep Learning for object/pose detection/classification
- GenAI for dynamic task planning in HRC operations



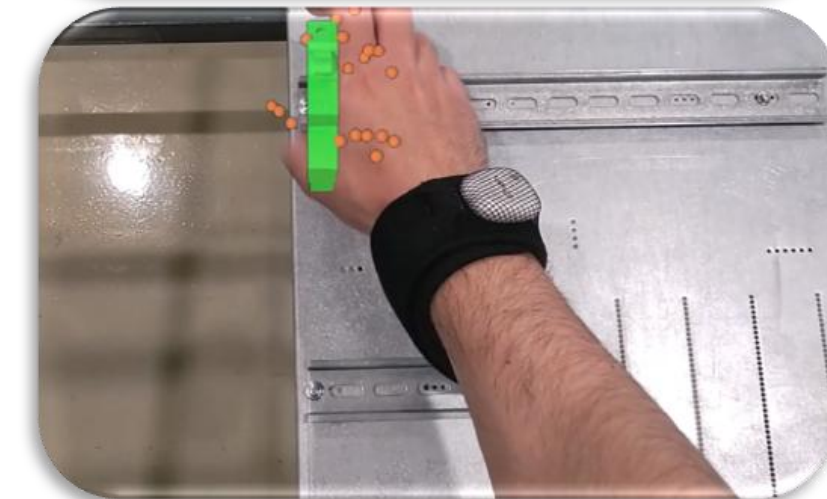
■ Manufacturing Automation, Robots & Virtual Reality Applications Group



Real-time instructions reconfigured based on product type



Natural AI driven HRI via LLMs



Multi-modal human action recognition

## Collaboration with:

- Universities
- RTO
- Technology Providers
- System Integrators
- Industrial End Users

## Areas of interest regarding MAT-PROD-03:

AI-driven dexterous grippers for dismantling

Model-based reconfiguration of reman/deman processes

Digital Twins

Deep Learning for Object Detection, Pose and Grasping Points Estimation

AI-based task and action planning

User-centric AI enhanced XR for operator support in reman/deman processes

Training/Upskilling in remanufacturing

RUL-based part/process condition analysis

Sustainability and Life Cycle Analysis

Circularity assessment

# THANK YOU

## Contact:

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## LMS

*Laboratory for  
Manufacturing Systems  
& Automation*

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