

Call for Participation – WS05 Workshop on Digitalization and Automation for Production Flexibility

Organizers and Chairs
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FOCUS This workshop addresses key technological, methodological, and operational challenges related to the digital transformation of industrial systems, with a particular emphasis on achieving higher levels of flexibility, intelligence, and resilience in future production environments. The overall objective is to enhance the level of digitalization and automation in industry by: (1) improving the flexibility of automation systems and solutions, (2) advancing the application and automation of robotics and control, and (3) strengthening digital infrastructure. These efforts aim to create smarter, more reconfigurable industrial environments with higher resilience, to meet future operational demands. By bringing together academic and industrial perspectives, the workshop emphasizes real-world challenges and practical solutions. Topics include automation strategies for customized production and assembly, the use of Autonomous Mobile Robots (AMRs) for intralogistics, and the adoption of DevOps principles in production and operational technology (OT) to enable faster reconfiguration and reduced downtime. Further focus areas include intelligent monitoring using machine learning for anomaly detection, integration of hard real-time control with data analytics, reliable sensor-to-cloud communication via OPC UA, and redundancy in industrial networks. The workshop concludes with a panel discussion on the future of flexible and smart production, aimed at enhancing collaboration between industry and academia.

TOPICS

- ❖ Modular and reconfigurable production systems
 - ❖ Digitalization and Automation for Flexible and Customized Production
 - ❖ Intelligent Monitoring, Diagnostics, and Anomaly Detection
 - ❖ Advanced Data Analytics and Control Methods
 - ❖ Mobile and Autonomous Systems in Production Environments
 - ❖ Robust and Reliable Industrial Communication Networks
- ❖ **AIM** By integrating academic and industrial expertise, this workshop aims to address real-world challenges, promote knowledge and technology transfer, and generate practical solutions for diverse industrial applications.

❖ WORKSHOP FORMAT

Full day Workshop, based on invited presentations.

This workshop will include 8 presentations, 6 from industry and 2 from academia. Each presentation will be allocated a time slot of 25-30 minutes, including time for questions. Moreover, there will be a panel discussion at the end. For any detail regarding registration to the Workshop, please refer to the ETFA 2026 website.

Workshop Presenters

- ❖ **Maike Klockner**, Alfa Laval, Sweden. Title: Development of automation solutions for customized production and assembly.
- ❖ **Anna Eckervald Nilsson**, Volvo Construction Equipment, Sweden. Title: AMR for distributing consumables from storage to machine cell.
- ❖ **Sofia Adao Colaco**, Scania, Sweden. Title: Industrial DevOps: Towards Adoption in the Industry.
- ❖ **Manuel Santos Silva**, INESC TEC and Institute of Engineering of the Porto Polytechnic, Portugal. Title: INESC TEC's Contributions to Industrial Digitalization and Automation.
- ❖ **Carlo Vitucci**, Ericsson, Sweden. Title: Anomaly detection in embedded systems using machine learning.
- ❖ **Daniel Hallmans**, Hitachi Energy, Sweden. Title: Control and Analytics Orthogonal Functions.
- ❖ **Bjame Johansson**, ABB, Sweden. Title: OPC UA PubSub for Reliable Industrial Automation Systems.
- ❖ **Lisa Maile**, Eindhoven University of Technology, Netherlands. Title: Redundancy in Industrial Networks: Past, Present and Future.