ICIT 2021 Special Session

Advances in Digital Transformation of Manufacturing Environments – Integrated Development 4.0

Organizer 1: Josef Moser

DI Josef Moser studied at the Graz University of Technology and graduated as DI in 1988. In the same year, he started working as an analysis engineer and joined the Infineon Technologies Austria AG, formerly Siemens Bauelemente OHG Villach, in 1989. Being responsible for the management of diverse departments of different organizations, among others, for wet chemistry, ion implantation, deposition and maintenance, he gained experience in various manufacturing management positions. His intercultural skills were as well influenced by his 6 years stay in France. After starting up an operations organization for Ceramic semiconductors in the Czech Republic, he joined Infineon Technologies Austria AG again in 2007. There he held the position of Director Quality Management in the Frontend operations Villach. Now he acts as technical adviser and coordinator in funding projects with the focus on manufacturing innovation

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Organizer 2: Haris Isakovic

DI Haris Isakovic is a doctoral researcher at the Technsiche Universität Wien (TU Wien), Institute for Computer Engineering, in the group of Prof. Radu Grosu. Main areas of expertise are real-time systems, cyber-physical systems-of-systems, internet of things, mixed-criticality integration. Over the years participated in a number of European research projects such as EMC2 and Productive40, iDev40, CPS/IoT Ecosystem and ADEPTNESS. Haris Isakovic has an extensive publication track with focus on mixed-criticality in multi-core architectures, security management in many-core architectures, dependable industrial IoT, simulation, modeling and verification of CPSoS.

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Organizer 3: Germar Schneider

Dr. Germar Schneider holds a Diploma and a PhD in chemistry. He joined the Siemens AG in Essonnes in France in 1995 as a process engineer in the wet department. In 1998 in Dresden, he became the section manager for the 200mm wet department. From 2004 to 2008, he built up a team at Infineon Dresden that was important for new factory automation and integration projects. Between 2008 and 2012, as manager in the new wafer test department he was responsible for production & equipment engineering. He has 25 years of experience combining know-how of process engineering, production, maintenance, automation and experiences with four digitalization project.

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-Technical Outline of the Session and Topics:

Outline of the Session

Covering research and development in the context of the digital transformation of industrial production systems with focus on process optimization, supply chain automation, digitization, robotics, big data analytics, and sustainability. In particular, the exploration of these concepts through advancements in semiconductor, automotive, chemical and other high tech industries with a broad impact on the European society. Companies and universities across Europe joined up in projects like iDev40, with a common goal of creating disruptive solutions towards strengthening the electronics components and systems for next industrial revolution. This session aims to highlight advancements in a broad spectrum of digitalization in industrial systems, that improve logistics and manufacturing, reduce time to market, increase energy efficiency and ensure overall sustainable growth and competitiveness of the European industry. In addition, we would like to elevate the importance of human factors, in terms of more modern and safer working environment. How can digitalization improve working conditions and increase productivity? What are major challenges in introduction of the IIoT and AI into manufacturing environments? Are there any ethical obstacles to the introduction of AI in production systems driven and managed by humans?

Topics of the Session
- Methods and Tools Enabling AI and ML in Manufacturing Environments
- Methods and Technologies from IoT and Automation
- Simulation, Virtualization and Digital Twins
- Ubiquitos Industry 4.0 and Aproachable Digitalization.
- Ethics in a Modern Digitalized Workplace