Special Session:

Digital twin models and software implementations in smart manufacturing (DTSISM)

Organizers

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Description:

Smart manufacturing\* deals with product and process innovation through the usage of advanced technologies. Smart manufacturing collects and distributes the information needed by production equipment to transform designs and raw materials into products, resulting in a highly connected industrial enterprise that can span a single company or across an entire supply chain. Smart manufacturing provides relevant information for every level of the enterprise, from the factory floor to the top management level, thus improving product quality, visibility and traceability while reducing cost.

This special session seeks papers describing research and implementations in the in the area of smart manufacturing and its subfields such as: digital manufacturing through the usage of advanced sensing and control technologies; development of standards in order to facilitate the integration of smart assets; implementation and usage of digital twins in manufacturing processes; usage of Artificial Intelligence in manufacturing in order to automate, scale and improve operation speed of control systems; usage of new technologies and standards that enrich the link between humans and machines with an emphasis on safety interactions and process efficiency; implementing cybersecurity in smart manufacturing systems.

In accordance with the topics of the SOHOMA’23 workshop, this session topics of interest include, but are not limited to:

* Smart manufacturing control architectures
* Industrial control with distributed intelligence
* Holonic manufacturing control architectures
* Resource and product virtualization for edge computing implementing.
* Virtualization of collaborative product and resource workloads
* Cloud software products for smart manufacturing
* Data- and model-driven digital twins
* Multi-agent systems for manufacturing control and supply chain management
* Intelligent agents and decision-making technologies.
* AI, Responsible AI, and cybersecurity in manufacturing control

Keywords: smart manufacturing, digital twin, internet of things, Industry 4.0 (/cyber-physical system), big data, intelligence distribution.

**Important dates:**

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| Full paper submission: | May 15, 2023 |
| Notification of acceptance/Rejection: | June 15, 2023 |
| Final camera-ready paper submission: | July 10, 2023 |
| Early registration and fee payment: | July 15, 2023 |
| SOHOMA 2023 Workshop | September 28-29, 2023 |
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