



Call for Papers

SS03 - Industrial Internet for the Factories of the Future

Organized and Co-Chaired by (sorted by last name)

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❖ **FOCUS** This special session is dedicated to bring together experts from various domains, such as IT, telecommunication, OT, and automation, in order to discuss and elaborate on challenges in the area of industrial communication inside the factories of the future. Nowadays, several highly sophisticated technologies are implemented in factories to realize a high variety of industrial applications. These implementations are able to achieve high performances in terms of e.g. cycle times and reliability. However, this performance is typically only feasible within strictly defined technologies or vendor specific communication domains, so that the interoperability becomes a big issue. Moreover, management and configuration of these networks is solely possible using vendor specific tools. The current market situation brings new requirements towards safety, security, flexibility, user-friendliness, and interoperability of the communication infrastructures. It is crucial to build industrial systems that are easy to rearrange, reconfigure, and in the same time offer high communication performance. To achieve this, innovative and sophisticated management approaches for heterogeneous and complex network infrastructures are needed. These approaches should not only consider the legacy wired and wireless communication technologies but also the newest Time Sensitive Networking (TSN) amendments as well as the currently developed 5G standard.

❖ TOPICS

- ❖ Future-proof, user-friendly, and dynamic network management for the industrial automation
- ❖ Utilisation of well-established IT solutions, such as SDN, NFV, and cloud, edge, or fog
- ❖ Machine-learning algorithms and concepts for control of heterogeneous industrial networks
- ❖ Safety and Security with regard to industrial network management
- ❖ Network Slicing models and corresponding implementation examples
- ❖ Adapters and functionalities for integrating legacy technologies or protocols
- ❖ Integration of TSN and OPC UA into the nowadays industrial communication
- ❖ Concepts of future-proof architectures to support private and public 5G implementations
- ❖ Deployment aspects, migration strategies, and co-existence of different network technologies
- ❖ Performance analysis of industrial network technologies and end-to-end QoS guarantees

❖ **AIM** The aim of this special session is to advance and progress the current research in the area of the Industrial Internet with regards to the Factories of the Future. As highlighted above there are many problems present. Therefore, all interested participants from various domains are invited to participate and share their research results and publications.

❖ **CONFERENCE FORMAT.** The conference will comprise multitrack sessions for regular papers, to present significant and novel research results with a prospect for a tangible impact on the research area and potential implementations, as well as work-in-progress (WIP) and industry practice sessions.

❖ AUTHOR'S SCHEDULE (2020)

❖ Regular and special sessions papers

Submission deadline April 1
 Acceptance notification May 6
 Deadline for final manuscripts June 17

❖ Work-in-progress/ Industry practice papers

Submission deadline May 13
 Acceptance notification June 10
 Deadline for final manuscripts June 17