

# **2021 IEEE International Conference on Industrial Informatics (INDIN2021)**

## **Special Session on Time-sensitive Computing and Communications for Future Industrial Systems**

**organized by**

Principal Organizer: Dave Cavalcanti, (dave.cavalcanti@intel.com)  
Affiliation: Intel Corporation, USA

Organizer 1: Iñaki Val, (ival@ikerlan.es)  
Affiliation: IKERLAN, Spain

Organizer 2: Raheeb Muzaffar, (raheeb.muzaffar@silicon-austria.com)  
Affiliation: Silicon Austria Labs, Austria

## **Call for Papers**

Recent advances in computing, artificial intelligence, and wireless communications are enabling a digital transformation in industrial systems. More and more applications will require synchronous and real-time computing and communications. Future autonomous mobile robots, smart manufacturing, autonomous vehicles, AR/VR experiences are expected to leverage virtualized computing across wireless and wired networks with deterministic low latency and high reliability. This special session aims to enable a discussion on research challenges, new paradigms and novel solutions involving edge computing, AI, communication technologies to enable future time-critical applications and experiences in industrial environments. Topics of interest include, but are not limited to:

- Time-critical industrial applications, robotics, and autonomous systems
- Time-sensitive networking (TSN) and Deterministic Networking
- Wireless TSN
- Low latency and high reliability with Wi-Fi, Wi-Fi 6/6E, Wi-Fi 7
- 5G and 6G Ultra-reliable Low Latency Communications

- Compute-Communication Co-design
- Orchestration and resource allocation for Edge computing and networks
- AI techniques for optimization of time-critical computing and communication resources
- Performance evaluation, measurement methodologies, and testbeds for time-sensitive systems

**Submissions Procedure:** All the instructions for paper submission are included in the conference website <https://2021.ieee-indin.org/>