

2021 IEEE International Conference on Industrial Informatics (INDIN2021)

Special Session on

**SS 08 - Recent trends of wireless communications for industrial
IoT/CPS systems**

organized by

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Call for Papers

The latest generation of wireless technologies, as the LPWANs, WiFi6, 5G etc, are profoundly changing the Factory Communication area, especially after the advent of the Industrial Internet of Things in the automation domain.

Field devices are evolving into smart things, able to communicate on both local and geographical scale. Wireless technologies solve scalability and flexibility issues in many industrial applications and offer ever increasing performance thanks to enhancements borrowed from the consumer market. However, requirements of the industrial domain pose additional constraints in terms of reliability and real-time performance, just to mention a few, which require solutions yet to come.

Research activity in the industrial wireless communication domain is continuously evolving, aiming at the optimization of the overall network performance, for instance in terms of timeliness, determinism, energy consumption, and data extraction rate. For instance, innovative machine learning (ML) techniques, possibly applied to cognitive radios, can be exploited for an adaptive adjustment of communication parameters. On the other hand, the demand in terms of seamless, standardized, transparent and secure device integration is increasing and has a larger and larger impact.

This special session aims to bring together academic and industry professionals to a session where the most recent studies, implementations, and proposals about the issues mentioned above can be presented.

SESSION TOPICS

Fields of interest include, but are not limited to:

- Communication Systems and Technologies for industrial applications;
- Protocols and Standards for Networked Embedded and Cyber-Physical Systems;
- Real-time, Safety, Security and Maintenance of Automation Systems and Networks;
- Artificial Intelligence and Machine Learning applications to enhance and Communication Technologies for Industry 4.0;
- Low-power and Green Communication in Industry;
- Recent advances in research domains with similar communication requirements;
- Wireless sensor/actuator networks for Industrial Internet of Things
- Short-range wireless technologies measurements and applications for Industrial Internet of Things
 - Bluetooth and BLE technologies measurements and applications to Industrial Internet of Things
 - 5G/4G technologies measurements and applications to Industrial Internet of Things
 - LPWAN technologies measurements and applications for Industrial Internet of Things
- Distributed mobile IIoT wireless systems