

23rd IEEE International Conference on Factory Communication Systems

20-23 APRIL 2027 Bilbao, Spain



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DESCRIPTION

Research on factory communications continues to gain relevance, with communication technologies playing a central role in modern automation. Advanced networking paradigms such as 5G/6G, Wi-Fi 7/Wi-Fi 8, Ethernet TSN, OPC UA, network softwarization, and the Industrial Internet of Things (IIoT) enable a wide range of applications in industrial environments. At the same time, the coexistence of multiple communication solutions, often combined to meet diverse application requirements, has led to increasingly complex and heterogeneous systems.

This complexity introduces challenges that must be addressed to fully exploit these technologies and move towards a new generation of smart, autonomous, flexible, and efficient industrial systems.

The 23rd edition of the WFCS conference (WFCS 2027) will address all aspects of communication technologies for factory automation and related domains, with emphasis on emerging trends, recent research results, and future directions. As the only IEEE conference exclusively dedicated to communications for automation, WFCS serves as a key forum for researchers, developers, and practitioners to exchange ideas and discuss the latest advances.

WFCS 2027 is supported by the IEEE Industrial Electronics Society (IEEE-IES) and technically co-sponsored by the IEEE-IES Technical Committee on Factory Automation (TCFA). It will be hosted by the University of the Basque Country at the Faculty of Engineering in Bilbao, Spain.

FOCUS

The conference focuses on (but is not limited to) the following areas:

- Wired and Wireless Industrial Communication Systems and Technologies
- Industrial Internet of Things (IIoT) including IEEE 802.15.4, LoRaWAN, Bluetooth
- Cloud/Fog/Edge Architectures and Applications in Industrial Automation
- Machine Learning and Data Analytics for Industrial Communication Systems
- JSAC/ISAC for Industrial Applications
- Security and Safety of Industrial Communication Systems
- Fault Tolerance, Reliability, and Availability in Industrial Communications
- Protocols, Standards, and Emerging Technologies for Real-Time and Networked Embedded Systems (5G/B5G/6G, Wi-Fi 7/8, TSN, IEC 61850, IEC 62439, etc.)
- Communication in Cyber-Physical Systems and Distributed Control Systems
- Communication Challenges in Collaborative Robotics and Automation
- Traffic Scheduling and Application-Network Integration
- Case Studies, Industry Practices, and Lessons Learned in Factory Automation.
- Advances in Communication Systems with Similar Requirements (Smart Cities, Smart Grids, Smart Transportation, Smart Health, Smart Buildings/Homes, Smart Agriculture, etc.)
- Management and Orchestration of Heterogeneous Industrial Networks, Self-Organizing Intelligent Networks, and Network Digital Twins.

PAPER SUBMISSION

Regular and Special Session Papers: up to 8 double-column pages (IEEE conference template)

Work-in-Progress (WiP) Papers: up to 4 double-column pages (IEEE conference template)

Demo Papers: 2–3 double-column pages (IEEE conference template), plus a separate document describing the demonstration setup and requirements

Accepted papers (Regular, Special Session, WiP, and Demo) will be submitted for inclusion in **IEEE Xplore**.

CONFERENCE WEBSITE: <https://wfcs27.ies-ieee.org>

IMPORTANT DATES

SS Proposals

Deadline: November 16
Notifications: November 20

SS/Regular Submissions

Deadline: January 11
Notifications: February 22

WiP/Demo Submissions

Deadline: February 22
Notifications: March 18

