

22nd IEEE International Conference on Factory Communication Systems



SPECIAL SESSION SS3 – Interoperability in Industrial Communication Systems

ORGANIZED BY:

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DESCRIPTION

This Special Session aims to bring together practitioners and researchers to examine the critical role of interoperability in the convergence of industrial communication systems, particularly in the context of integrating 5G/6G technologies with wired and wireless industrial protocols. Seamless communication across heterogeneous devices and systems represents a cornerstone of Industry 4.0, needed to support flexible deployments, adaptive behaviours and mobility within factories and industrial sites. To achieve this goal, communication protocols must adhere to open standards and support semantic interoperability through shared information models.

The session will emphasize layered architectures that enable cross-domain data exchange, allowing wired industrial systems to coexist with modern 5G-enabled platforms and beyond. Authors are invited to submit traditional research papers and also experience reports discussing interoperability challenges in real converged industrial systems as well as novel solutions.

FOCUS

The Special Session focuses on (but is not limited to):

- Cross-domain interoperability in industrial networks
- Semantic information modeling and data harmonization
- Integration of legacy protocols with 5G and beyond
- Open standards for industrial communication
- Middleware and gateways for protocol translation
- Layered architectures for heterogeneous system integration
- Digital twins and interoperable data spaces
- Standardization efforts (e.g., OPC Foundation, IEC, IEEE)

PAPER SUBMISSION: Instructions for paper submission are included in the conference website: <https://hs-offenburg.de/wfcs26>

IMPORTANT DATES

Regular/SS submissions:

Hard Deadline: **February 1**, 2026

Notifications: **February 27**, 2026

Final versions: **March 6**, 2026

