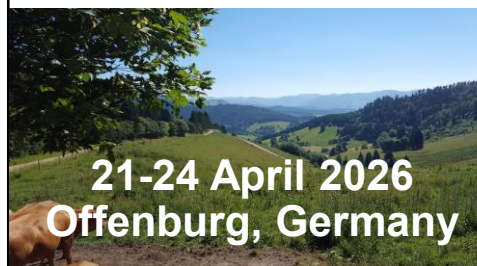


22nd IEEE International Conference on Factory Communication Systems



SPECIAL SESSION SS4 – Distributed & Intelligent Edge Computing for Industrial IoT

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DESCRIPTION

Future Industrial IoT (IIoT) networks and the forthcoming 6G networks envision ubiquitous computing and connectivity which will lead to massive growth in data traffic and billions of edge nodes. To meet tight latency and reliability targets, edge devices are widely used in industrial automation, transport, surveillance, smart environments and the emerging Low-Altitude Economy (LAE) - an airspace ecosystem involving drones, and aerial collaborative operation platform used for logistics, inspection, and urban air mobility. However, in many scenarios, sophisticated artificial intelligence (AI) algorithms demand substantial processing power and storage, often exceeding the capabilities of typical edge devices. To overcome this challenge, recent delay sensitive, distributed, and intelligent trends in computing paradigms, such as TinyML, Federated Learning, Mobile edge Computing, Multiaccess Edge Computing, Edge Computing, Fog Computing and Computational Offloading are under research, aiming to optimize latency, computing complexity, and resourceful utilization of bandwidth, thus giving rise to a potential research direction of distributed and Intelligent Edge Computing (IEC). Due to significant tasks expected to be handled in future IIoT and 6G networks, IEC is deemed to play an important role. To support distributed AI applications on the edge computing platform, efficient life-cycle management and closed-loop automation tools are required to manage the highly heterogeneous computing elements in edge computing (e.g., embedded devices, intelligent base stations, edge and fog, servers, etc.) Also, novel methods are needed to ensure IEC security against attacks, the privacy of the data their models and their trustworthiness, avoiding erroneous decisions and ensuring high performance AI/ML models.

FOCUS

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

- IEC solutions for Industrial IoT (IIoT) and Beyond 5G (B5G) communication network
- Communication protocols designed for IEC
- Distributed or collaborative intelligence for IIoT and B5G communication networks (e.g., federated learning, TinyML)
- Explainable AI and Trustworthy AI in IEC
- Generative AI applications for IIoT and IEC
- Digital twins technology for IIoT and IEC
- AI-based and on-demand resource allocation, management, and task scheduling in IEC
- Intelligent computation offloading strategies for IEC
- Joint optimization of computing, network, and storage resources for emerging IEC applications
- Latency and bandwidth management techniques in IEC
- Zero-touch service orchestration solutions across IIoT and B5G with IEC
- Energy efficiency optimization in IEC
- Security and trust mechanism construction in IEC
- IEC for low-altitude platforms (e.g., drones, aerial robotics and so on)
- Coverage and mobility management for edge computing nodes in IEC
- Cross-scenario DIEC technologies

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

IMPORTANT DATES

Regular/SS submissions:

Deadline: **January 11, 2026**

Notifications: **February 22, 2026**

Final versions: **March 1, 2026**

