



## IEEE Conference on Industrial Cyber-Physical Systems (ICPS)

Emden, Germany, 12-15 May 2025

<https://icps2025.ieee-ies.org>

### **Call for Papers - Special Session on Collaborative and Inter-organizational Knowledge Generation and Exploitation in the IIoT**

#### *Organized and co-chaired by:*

**Jan Pennekamp**

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RWTH Aachen University, Germany

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#### *Technical Outline of the Session and Topics:*

Utilizing information across organizations in the IIoT is essential for advancing innovation and enables enhanced optimization of international supply chains, production value networks, and entire industries. Businesses can leverage decentralized information without compromising privacy through sophisticated data sharing, cooperation, and collaboration, even with untrusted parties. For this, they can apply methods like homomorphic encryption, federated learning, or trusted execution environments. As businesses become more interconnected, inter-organizational collaboration, also as part of industrial ecosystems, is increasingly vital for accelerating digital transformation and unlocking the full potential of shared knowledge. This interconnectedness drives innovation, leading to more resilient, agile, and intelligent industrial systems on a global scale.

*Within this scope, topics of interest include, but are not limited to:*

- blockchain technology and smart contracts
- case studies and research methodologies
- digital product passport and digital shadows
- FAIR data and data format translation
- generative AI in knowledge representation
- information security and technical security guarantees
- information flows and publish/subscribe messaging
- knowledge graphs and semantic interoperability
- machine learning in inter-organizational data processing
- reputation, procurement, and SCM systems

*Author's schedule: Same as the ICPS Conference*

*All the instructions for paper submission are included on the conference website: [icps2025.ieee-ies.org](https://icps2025.ieee-ies.org)*