

# AI-empowered Decision Support System in Industrial 4.0

## Organizers:

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## Abstract:

The advent of Industry 4.0 marks a pivotal shift towards automation, data exchange, and manufacturing technologies. Central to this revolution is the integration of Artificial Intelligence (AI) in decision support systems (DSS), which has emerged as a critical enabler for achieving operational excellence and innovation. This special session aims to explore the latest advancements, methodologies, and applications of AI in decision support systems within the industrial domain. It seeks to bring together academia, industry practitioners, and researchers to share insights, research findings, and practical implementations of AI technologies that enhance decision-making processes in Industry 4.0.

This session directly aligns with the goals of the IEEE International Conference on Industrial Informatics, which focuses on technological advancements and applications of information and industrial systems within the industrial and manufacturing sectors. The topic of AI-empowered DSS in Industrial 4.0 is highly relevant as it represents a significant area of research and development that can lead to more efficient, sustainable, and smart industrial processes.

## Objectives:

To showcase cutting-edge research and innovative AI applications in industrial decision support systems.

To foster discussions on challenges, opportunities, and future directions of AI in Industry 4.0.

To encourage collaboration between academics, industry practitioners, and researchers in the field.

To provide insights into the integration of AI with other Industry 4.0 technologies (IoT, Big Data, Cyber-Physical Systems) for enhancing decision-making.

## Topics of Interest:

AI-Empowered industrial applications

Integration of AI in industrial IoT (IIoT) for decision making

Case studies of AI-driven DSS in manufacturing, supply chain, and logistics

Challenges in implementing AI in industrial environments

Ethical considerations and societal impacts of AI in Industry 4.0

Predictive maintenance and quality control using AI

Human-AI collaboration in industrial settings