

Call for Papers for the Special Session on

Smart Energy Management and Reliability Enhancement in Industrial and Microgrid Systems

Organized and co-chaired by

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Technical Outline of the Session and Topics

This special session focuses on strategies, tools, and techniques for improving the reliability, efficiency, and sustainability of industrial and microgrid energy systems. Contributions may cover energy storage integration, demand response, power quality enhancement, system resilience, predictive maintenance, and cost-effective operation. Emphasis will be placed on scalable solutions suitable for industrial environments, industrial parks, and campus-scale microgrids operating under real-world constraints. While computational methods may be used, the emphasis is on practical energy management solutions, operational strategies, and system-level performance improvements. The session also encourages contributions that demonstrate experimental validation, field implementation results, or industry-driven case studies highlighting measurable reliability and performance improvements. This session aims to provide a platform for researchers and practitioners to share applied innovations and case studies that advance the design, control, and operation of smart and sustainable energy systems, complementing the conference's focus on industrial electronics and sustainable development.

Topics of the session include, but are not limited to:

- Energy management and scheduling in microgrids and industrial systems
- Integration and optimization of energy storage and conventional sources
- Reliability, resilience, and power quality enhancement
- Demand response and load management
- Case studies of smart grid/microgrid deployments
- Real-time monitoring and supervisory control of industrial and microgrid energy systems
- Optimal sizing and placement of distributed energy resources and storage systems
- Cyber-physical security and resilience of industrial energy systems

Timeline for Authors

All the instructions for paper submission are available on the conference website. Please visit www.iecon2026.org or scan the QR code for the timeline.

