



Call for Papers

SS09 - Refurbishment and re-manufacturing of machinery in Cyber-Physical Production Systems

Organized and Co-Chaired by
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❖ **FOCUS.** In this Special Session the concepts of refurbishment and re-manufacturing as a way to extend the useful life of assets and reduce the wasteful use of resources are discussed. These activities are framed in the circular economy model with purpose to retain the value of products and materials, which, together with health status monitoring using machine learning and optimization constitute key elements for the re-use and extension of the useful life of industrial equipment.

❖ TOPICS

- ❖ Big data analytics, predictive analytics, and optimisation models using deep learning techniques, and digital twin models.
- ❖ Models for informed decision about whether to refurbish, remanufacture, upgrade, or repair machinery that is towards its end-of-life.
- ❖ Technologies and strategies to support a new paradigm for refurbishment and remanufacturing of industrial equipment in factories.
- ❖ New concepts and strategies for repair and equipment upgrade and factory layouts' redesign.
- ❖ Optimal refurbishment and re-manufacturing of electromechanical machines and robotics systems.
- ❖ IoT sensors, novel prediction, and process optimisation techniques to offer machine lifetime extension.
- ❖ Innovative fog computing and augmented reality techniques combined with enhanced health monitoring and failure inspection and diagnosis.
- ❖ Approaches for the servicing and upgrading of legacy equipment
- ❖ Evaluation and demonstration of approaches in real industrial environments.

❖ **AIM.** The aim of the Special Session is to bring together researchers and practitioners from the industry and academia and provide them with a platform to report on recent advances and developments in the newly emerging areas of refurbishment and re-manufacturing as technological enablers supporting value retention throughout the industrial equipment lifecycle.

❖ **CONFERENCE FORMAT.** The conference will comprise multi-track sessions for regular papers, to present significant and novel research results with a prospect for a tangible impact on the research area and potential implementations, as well as work-in-progress (WiP) and industry practice sessions.

❖ AUTHOR'S SCHEDULE (2021)

❖ Regular and special sessions papers

Submission deadline May 7
 Acceptance notification June 4
 Deadline for final manuscripts July 14

❖ Work-in-progress/Industry practice papers

Submission deadline June 11
 Acceptance notification July 7
 Deadline for final manuscripts July 14