2019 IEEE International Conference on Industrial Informatics (INDIN'19)

Special Session/ Organized Session on

"Innovative Technologies and Methods for Zero Defect Manufacturing on Industrial Cyber-Physical Systems Context"

organized by

Principal Organizer: Paulo Leitao (pleitao@ipb.pt)
Affiliation: Instituto Politécnico de Braganca, Portugal

Organizer 1: Christian Eitzinger (Christian.Eitzinger@profactor.at)
Affiliation: PROFACTOR GmbH, Austria

Organizer 2: Salvador Izquierdo Estallo (sizquierdo@itainnova.es)
Affiliation: ITAINNOVA, Spain

Call for Papers

The quality of products is a key factor for success in manufacturing industry along with the reduction of material waste, re-works, rejects and stocks, leading to a demand for the development of zero-defect manufacturing (ZDM) strategies at system level.

Under the umbrella of the 4ZDM cluster, several European research projects, aligned with the Industry 4.0 principles, are making efforts for the integration and convergence of technologies for measurement and quality control, for data collection, storage and analysis, at single process and at factory level, aiming to guarantee high quality of products without interfering, actually improving, the production efficiency of the entire system.

In this context, the objective of this special session is to provide an open discussion forum where researchers and industrial partners can share their own perspective and visions on developing methodologies, designs and roadmaps to address innovative technologies and methods for ZDM on the industrial cyber-physical systems context. This special session is organized under the scope of the 4ZDM cluster, and particularly involving the following 3 European projects: GO0DMAN (aGent Oriented Zero Defect Multi-stage mANufacturing; http://go0dman-project.eu/), STREAM-0D (Zero Defect Manufacturing Solution;

A good quality paper may be considered for publication in IEEE Transactions on Industrial Informatics (I.F.= 5.430) subjects to further rounds of review

http://www.stream-0d.com/) and ZAero (Zero-defect manufacturing of composite parts in the aerospace industry; http://www.zaero-project.eu/).

Topics of interest include, but are not limited to:

- Multi-agent systems architectures for ZDM environments
- Big data analytics for ZDM environments
- Artificial intelligence methods for intelligent predictive maintenance in ZDM
- Real-time machine condition monitoring & diagnostic for single and multi-stage environments
- Smart inspection systems for smart manufacturing environments
- Advanced knowledge representation methodologies and ontologies
- Self-adaptive and self-reconfiguration methods for smart multi-stage manufacturing environments
- Virtual modelling and simulation (Digital Twins) for ZDM scenarios
- Assistance systems (non-robotic) for manual production tasks
- Computer-Aided Engineering (CAE) for manufacturing
- Reduced Order Modelling (ROM) methodologies focused on manufacturing processes
- Dynamic Data Driven Application Systems (DDDAS) for improved quality control and ZDM
- Model-based control for ZDM

Submissions Procedure and Deadlines: All the instructions for paper submission are included in the conference website https://www.indin2019.org/

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