IEEE Transactions on Industrial Informatics

2019 IEEE International Conference on Industrial Cyber-Physical Systems (ICPS2019) 2019 IEEE International Conference on Multisensor Fusion and Integration for Intelligent Systems (MFI2019)

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Special Session on Life Cycle Engineering of ICPS Organized by

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Call for Papers

Theme: Industrial Cyber-Physical Systems (ICPS) forge the core of real-world networked industrial infrastructures having a cyber-representation through digitalization of data and information across the enterprise (i.e. products, processes, resources) and the interactions with suppliers and customers across the supply chain. As such the competitive performance of an ICPS mainly depends on the ability to effectively collect, analyze and use large-scale digitalized data and information from many different and often heterogeneous sources, to sustainably and efficiently manage, supervise and operate in the industrial environments. This effective information-driven interaction of ICPS with other CPS and enterprise systems, extending to all business processes, is viewed as vital to modern industries and of the so-called 4th Industrial Revolution.

There are many challenges ahead in the convergence of computing, control, mechatronics and communications for ICPS ecosystems. From the perspective of IEC62890, the life cycle and value stream dimension of the RAMI4.0 specification, it is essential to specify a consistent data model during the whole life cycle in order to allow the combination of value chain for ICPS types and instances in only one appropriate semantic model. To achieve this major goal, there is a need for investigating and learning a wide spectrum of foundations, research and technological fields. In this context, the contributions within this special session should addresses the Life Cycle Engineering for ICPS when it is going into the industrial environments, taking into account that the same trend is also evident in other domains such as energy, healthcare, manufacturing, military, transportation, consumer, enterprise, robotics, and smart cities among others.

Topics of interest include, but are not limited to:

- Life Cycle Engineering of ICPS under the Standard IEC62890
- Building Industrial Digital Threads to support current PLM-based practices
- Semantic Models for Data across phases of the the ICPS-LifeCycle
- Methods and Tools supporting LifeCycle Engineering of ICPS
- Digitalization of Types and Instances of ICPS under the RAMI4.0-Specification
- Engineering Systems-of-Cyber-Physical Systems.

Submissions Procedure: All the instructions for paper submission are included in the conference website http://icps19.org/final-paper-submission

Deadlines:

Reception of full paper: December 30, 2018

Paper acceptance notification: before March 1, 2019