3ʳᵈ Workshop on Management for Industry 4.0 - MFI4.0

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IEEE/IFIP Network Operations and Management 2022 Symposium
25-29 April 2022 | Budapest, Hungary

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IMPORTANT DATES:

Submission deadline:
Feb. 20ᵗʰ, 2022 ***extended firm***

Author notification:
Mar. 13ᵗʰ, 2022

Final submission:
Mar. 27ᵗʰ, 2022

DESCRIPTION

The transition from ISA-95 to RAMI4.0/IIRA based automation for production automation in Industry 4.0 is ongoing. This includes the integration of legacy OT with emerging IT technologies. Another aspect is automation/digitalisation across value networks involving a multitude of stakeholders in complex relationships.

The recent developments of communications technology show a strong involvement of wireless communications even on the factory floor. This brings new requirements to integrate wireless and also cellular technology, in particular 5G/6G and their resilience, into both OT and IT communication. Moreover, these technologies open a new class of management with more flexibility and challenge traditional industrial communication concepts including security aspects. All aforementioned communication technologies are key enablers for mobile and flexible large-scale systems that encompass the architecture of IoT field devices to the networking of factories in one deployment.

The formation of such large to very large System of Systems (SoS) are foreseen. Such SoS will involve technologies like, e.g., IoT, AI, Analytics, Big data, and legacy technology. This technology will be distributed across multiple stakeholders with complex relationships. All in all, aiming for efficient production of products or services.

Architectures like RAMI4.0 and IIRA have been presented but are still in early stages. Implementation platforms and frameworks are as well in early stages. Even less maturity is seen regarding engineering and management of such complex automation and digitalization solutions, which consider dependencies across all levels of abstraction.

Such architectures and above technology will be used to automatically or autonomically control digitalized production infrastructures. Autonomous decisions require trustworthy and reliable data, operations, and decisions. However, trust related to, e.g., industrial AI may mean different things depending on the type of stakeholder it concerns and will also require the consideration of management and organizational aspects.

To become successful in real world production of goods and service technology and stakeholder integration will need structured training, engineering, and management.

FOCUS ON:

The workshop will focus on several core engineering and management issues, the primary focus topics are:

- Migration Management
- Operational Management
- Security Management
- Deployment Management
- Management of Networked Components in Industry 4.0 scenarios
- Automation evolution Management and Engineering
- Product Life Cycle Management
- Product Planning Management
- Manufacturing Change Management
- Manufacturing Process Management
- Manufacturing Operations Management
- Management of Digital Twins
- Cyber Physical System of Systems

Additional topic may be considered given adequate proposal, therefore.

SUBMISSION OF PAPERS:

Authors are invited to submit original contributions written in English that have not been published or submitted for publication elsewhere. Technical papers must be formatted using the IEEE 2-column format and not exceed 6 pages for full paper submissions or not exceed 4 pages for poster/short paper submissions. All papers should be submitted through JEMS at: https://jems.sbc.org.br/noms2022