

5th Workshop on Service Orientation in Holonic and Multi-Agent Manufacturing



Session title: Service-oriented Enterprise Management and Control – **SOMC**

Organisers:

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Short presentation:

This session approaches the trend of service orientation in the management and control of processes in production enterprises and service firms. The service orientation is emerging at multiple organizational levels in enterprise business, and leverages technology in response to the growing need for greater business integration, flexibility and agility. The Service Oriented Architecture represents a technical architecture, a business modelling concept, an integration source and a new way of viewing units of control within the enterprise. Business and process information systems integration and interoperability are feasible by considering customized products as "active controllers" of the enterprise resources – thus providing consistency between the material and informational flows within the enterprise. Service orientation in the manufacturing domain is not limited to just web services, or technology and technical infrastructure either; instead, it reflects a new way of thinking about processes that reinforce the value of commoditization, reuse, semantics and information, and create business value. The unifying approach of the contributions for this session relies on the methodology and practice of disaggregating siloed, tightly coupled business processes of the manufacturing enterprise level into loosely coupled services and mapping them to IT services, sequencing, synchronizing and automating their execution in distributed information systems.

If SOA is the conceptual framework for service orientation of manufacturing enterprise processes, Service Oriented Computing (SOC) represents the methodology and implementing framework for embedded monitoring and control systems in Service Oriented Enterprise Architectures, and Service and Computing Oriented Manufacturing (SCOM) unifies existing advanced manufacturing models by centring them on internet/network, cooperative work and resource sharing, which creates premises for Digital Manufacturing.

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The service-oriented multi-agent systems (SoMAS) approach is characterized by the use of a set of distributed autonomous and cooperative agents (possibly embedded in smart control components) that use the SOA principles, i.e. oriented by the offer and request of services, in order to fulfil industrial and production systems goals.

The papers submitted for this session should address the following topics:

- Enterprise production and business models for service-oriented manufacturing
- Process componentization, orchestration and choreography
- Service Oriented Enterprise Architectures
- Service-oriented multi-agent systems
- Service and computing oriented manufacturing
- Enterprise Service Bus (ESB) and Manufacturing Service Bus (MSB 2.0)
- Total enterprise integration and Manufacturing Integration Framework
- Servitization and Product-Service Extensions
- Quality of Service (QoS) management
- Smart and Digital enterprise

Keywords:

Smart and digital enterprise; Service Oriented Enterprise Architecture (SOEA); Service-oriented agents and MAS (SoMAS); Total enterprise integration; Composite services; Servitization

Important dates:

- Special Session Proposal: June 30, 2015
- Full Paper Submission: August 31, 2015
- Notification of Acceptance: September 22, 2015
- Final Paper Submission: October 25, 2015