Session title: Service-oriented Management and Control of the Digital Enterprise - MCDE

Organisers:

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Short presentation:

In the actual global development context, the mission of research is to establish an overall digital enterprise architecture and core ICTs to develop a comprehensive Internet-scale platform for networked management and production that will encapsulate the right abstractions to link effectively and scalable the various stakeholders – manufacturing plants, product firms, material-, components- and technology providers, key services – to enable the emergency of feasible and sustainable Internet economy for industrial production.

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 digital 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.

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:

- Management of the digital enterprise
- Service and computing oriented manufacturing
- Issues for the Smart, Digital and Virtual enterprise
- Big data and analytics in the contextual enterprise
- Service-oriented Enterprise Architectures
- Total enterprise integration and Manufacturing Integration Framework
- Service-oriented multi-agent systems
- Product-Service Extensions
- Quality of Service (QoS) management in the digital enterprise

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

Important dates:

- Special Session Proposal: July 30, 2015
- Full Paper Submission: December 21, 2015
- Notification of Acceptance: January 11, 2016
- Final Paper Submission: February 15, 2016