Session title: **Holonic and Multi-agent system design for industry and services- HMAD**

Organisers:

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Description:

To cope with increasing global competition, various intelligent approaches have been suggested to improve flexibility, reconfiguration and scalability of manufacturing systems. Among them, product driven systems (PDS) and holonic manufacturing systems (HMS) based on intelligent products that change the vision from passive to active products. These systems allow a product to be proactive and/or to make decisions. This leads to two main solutions of decision making system structures: hierarchical or heterarchical. In a hierarchical structure each level is in charge with planning or scheduling production and to report the implementation results to a higher level. This centralized decision structure usually leads to poor agility and robustness. Conversely in a PDS, each active product has high ability to make local decisions through cooperation and interaction with other active products in a heterarchical structure, resulting in excellent agility and robustness.

This call for papers is intended to put the focus on the challenges and solutions, and especially, on the way to design "industrial and service-oriented" holonic, PDS and multi-agent systems. It encompasses the ways and methods to design independent, active systems. Effectively, the design phase of such systems is not trivial. The PDS/HMS architecture must be strictly adapted to each specific industrial context. Several questions have to be resolved: physical and hardware system architecture, decision making architecture, multi-agent system architecture, and so on …

Keywords:

Holonic systems, Intelligent Manufacturing, Manufacturing control system design, Planning, Logistics.

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