R. Jardim-Concalves, D. Romero, A. Grilo, *FoF: Challenges and leading innovation in intelligent manufacturing*

The authors (Eds. of IJCIM 30/1) reviewed in their contribution the content of this special issue. They identify 5 dimensions: a) frameworks, theories and models, b) Cyber physical systems, c) the role of semantic technologies and interoperability, d) virtual organisation and d) servitisation covered by the 15 following contributions. The paper analyses conceptional, theoretical and empirical contributions in the FoF area (Factory of the future) and identifies numerous research topics in all of the 5 dimensions.

The paper by E. Filos describes the supporting efforts of the European Commission in its FoF initiative and related programs. The 3 papers of Maghaddam and Nof (collaborative FoF), Marcelino-Jesus et al (Assesment framework), and Ilie-Zudor et al (operational decision support) describe concepts that will help to organise the research results in the FoF field. The Internet of Things (IoT) technology is proposed by Ghimire et al for project mgmt. to support decision making in heterogeneous and dynamic environments.

The relation of semantic technologies and interoperability are addressed by Repta et al (description logic and semantic web rule language), Milicie et al (Data from PLM domain modelled mathematically) and Nodehi et al (inter-cloud interoperability).

In the domain of collaboration Ferreira et al propose a framework for a plug-in component as a software adapter in an End-to-End mfg. platform development for directly connecting buyers and suppliers and improving their BP effectiveness (an example is provided). Mehrbod et al address a specific aspect of collaboration: the matching of B2B suppliers and buyers e-catalogues. Knoke et al propose a knowledge centric approach for a business innovation framework for virtual mfg. enterprises. A collaborative business process monitoring system within virtual factory (VF) environments is proposed by Shamsuzzoha et al. The authors define a VF architectural three layer framework (user interface, process mgmt and data mgmt). The last paper in the collaboration domain by Gorecky et al addresses an automated training content generation system that is based on a reference-architecture for an interoperable information interface. The interface merges heterogeneous enterprise data from planning processes into a unified information model: the input for the virtual training system.

The last two papers make up for the last of the 5 identified domains. Wiesner and Thoben describe requirements for models, methods and tools needed for servitisation in collaborative environments to enable mfg. service ecosystems. The paper is complimented by Angulo et al, who propose a service-oriented architecture and its ICT-infrastructure to support eco-efficiency performance monitoring in mfg. enterprises.

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