

CALL FOR PAPERS

Interoperability of Enterprise Systems at the shop-floor level

Special Session in 11th IFAC SYMPOSIUM ON INFORMATION CONTROL PROBLEMS IN MANUFACTURING (INCOM2004)

Under the track : Production & Logistics over Manufacturing Networking

TC 5.3 "Enterprise Integration and Networking" (A. Molina, MX)

APRIL, 5-7, 2004

SALVADOR/BA BRAZIL
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CONFERENCE SCOPE

INCOM is a tri-annual symposium organized by IFAC and mainly sponsored by the IFAC Technical Committee 5.1 on Manufacturing Plant Control and co-sponsored by 9 IFAC Technical Committees. Previous editions of the symposium were held in Vienna (2001), Nancy (1998), and in Beijing (1995). Its main purpose is to point up international researches and developments dealing with all the applications of automation, information and communication technologies in order to control and to manage the manufacturing plant within the e-enterprise, involving all methodological and technological aspects to embed a technical "intelligence" within the components. This symposium will address the automation scientific challenges and issues raised by the IMS paradigm in order to apply MEMS, MECHATRONICS, MES, MAS, HMS and etechnologies to digitally control with more agility the entire manufacturing chain, from supply and design through manufacturing, to maintenance and service, over the whole product and processes life cycle. Information issues at the interface of the technical and business processes will be discussed as well as societal and human impact (safety, dependability, usability, knowledge, and experience) of these emerging e-manufacturing technologies.

Track: Production & Logistics over Manufacturing Networking

Chairs: G. Morel (FR) & D. McFarlane (UK)

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Topics :

- Enterprise-control system integration
- Business to Manufacturing
- Manufacturing Plant Control & Management
- Control & Management of networked Manufacturing Systems
- Auto-ID Systems and Product Traceability
- Manufacturing Execution Systems
- Unified Manufacturing Modelling Language
- Manufacturing Processes Modelling
- Control of lean manufacturing and interaction with JIT supplies
- Design for manufacturing.

Session Chair : Hervé Panetto (CRAN/CNRS – UHP, France)

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Session Outline

Making products requires that all information needed is available at every step of the process, from creation of the initial product concept to its translation to delivered product, in the form that directly supports each function. Hence, information flows seamlessly throughout the development, production, and support life cycle. It implies interoperability of tools and management of information throughout the process. It also implies optimization, not only of individual processes, but also of the total product/process/resource environment.

Within this Globally Scaled world, the new successfully strategy for the Manufacturing Process deals with “Collaboration” and “Coordination” of such all activities (engineering and managing) performed along the process itself. For realizing such Collaboration Strategy, Manufacturing has to become an “integrated manufacturing process”: all methods/tools/environments dispersed along the Manufacturing Process have to be integrated, for constituting such a collaborative arena, physically enabling the Collaboration Strategy. This new type of integrating paradigm is already under deployment and it is defined as Product Life Cycle Management (PLM). PLM integrates a variety of disciplines/methods/tools/environments along the product life cycle, from Product Development and Manufacturing System Execution activities and tools to Enterprise Systems Engineering and Management activities.

However, in the most advanced manufacturing enterprises today, many technologies exist to integrate elements of the product realization and business systems. Interoperability of these Enterprise Systems, at the shop-floor level, should focus on modelling products and their processes in order to integrate the information through a business to manufacturing framework.

The purpose of this session is to bring together researchers, engineers, standard developers and practitioners interested in the advance of interoperability of Enterprise Systems.