

The 9th IFAC Workshop
on
Intelligent Manufacturing Systems
(IMS 2008)

Szczecin, Poland, October 9-10, 2008



Invited Session:

**RECONFIGURABLE MANUFACTURING SYSTEMS AND
TRANSFORMABLE FACTORY**

Organizer: Professor Alexandre Dolgui (Ecole des Mines de Saint Etienne, France)

TC 5.1 on Manufacturing Plant Control

TC 5.2. on Manufacturing Modelling for Management and Control

The concept of Reconfigurable Manufacturing Systems (RMS) was introduced by Koren et al. in 1999. The authors highlight the industry's new requirements for manufacturing systems given the shorter and shorter product runs and the need for more customization. From the beginning, an RMS is designed to be able to make changes in its physical configuration to answer market fluctuations in both volume and type of product. For RMS, the principal characteristic is modularity: in a reconfigurable manufacturing system, all the major components are modular (system, software, control, machines and process). Selection of basic modules and the way they can be connected provide systems that can be easily integrated, diagnosed, customized, and converted.

Basically, reconfigurable manufacturing systems (RMSs) aim at quickly adjusting production capacity and functionalities in response to unexpected changes in the market. An RMS is also supposed to quickly integrate new technologies to improve its efficiency. RMS is assumed to be the perfect tool for the new era of mass customization that requires simultaneously the productivity of dedicated system and the flexibility of agile manufacturing system.

The aim of this session is a review on this topic, more particularly on the challenges of reconfigurability for manufacturing systems by study of several problems:

- Equipment selection and process planning
- Production system dimensioning and line balancing
- Scheduling and planning
- Operations management and flow analysis
- Control system design

Important dates:

Draft paper submission deadline: 22.05.2008

Final paper submission deadline: 15.07.2008

Early registration deadline: 01.07.2008

More information about The 9th IFAC Workshop on Intelligent Manufacturing Systems you can find on the website www.ims08.ps.pl