

MECHATRONICS EXPLAINED BY COMPANIES: PRESENT AND FUTURE OF INDUSTRIAL MACHINES DESIGN

Mechatronics Group of ANIE Automazione and University of Bologna - Department of Electrical, Electronic and Information Engineering “Guglielmo Marconi” (DEI), organize a workshop on the mechatronic design of industrial machines.

A mechatronics application is the result of combination of different technological disciplines where mechanical, electrical, electronic systems and IT interact in order to increase production efficiency. In the planning phase this convergence of goals is not always respected and one of the difficulties that may arise is that of enhancing the interdisciplinary nature of mechatronics.

The seminar declines this general concept in a series of speeches by the manufacturers/providers of mechatronic components and an OEM who uses their basic technological solutions to build industrial machines.

The aim is to illustrate to students the prevailing aspects of the design of a machine, part of an industrial production plant. The approach is very operational and concrete, linked to the real needs of the machine manufacturer and the end-user who see with interest the specific technological arguments, but also have to consider the economic and practices requirements. In effect today all the phases that lead to the realization of an automatic machine for industrial production are characterized by the need for optimization of the costs and time of design and implementation, in the face of a growing demand for performance and functionality.

OPENING SESSION

- **Claudio Melchiorri**, Head of DEI - University of Bologna
- **Lorenzo Marconi**, Automation Engineering degree coordinator - Univ. Bologna
- **Marco Vecchio**, General Secretary of ANIE Automazione
- **Sabina Cristini**, President of Mechatronics Group

OEM SESSION

- Case history: how the machine manufacturer operates - **IMA Group**

TECHNOLOGY PROVIDERS SESSION

Transmission and mechanical design	
Slot 1. Kinematics chain and dimensioning	LENZE ITALIA
Slot 2. Energy efficiency	ESA AUTOMATION
Safety and Security	
Slot 1. Safety	HEIDENHAIN ITALIANA - MITSUBISHI ELECTRIC
Slot 2. Cyber security	SIEMENS
Automation and Control	
Slot 1. Electrical design	SDPROGET - LAPP ITALIA
Slot 2. Motion control	SCHNEIDER ELECTRIC
Slot 3. Communication	B&R AUTOMAZIONE INDUSTRIALE
Simulation and virtualization	
	ROCKWELL AUTOMATION - SIEMENS
Logistics	
	SEW EURODRIVE - SICK

COMPANIES OF MECHATRONICS GROUP

