



APMS 2012 Keynote Speakers

Jochen Rode

Practice Manager

Founder: Future Factory Initiative

Leader: M2M /Internet of Things Research

SAP AG, Dresden



(<http://www.sap.com/corporate-en/our-company/innovation/research/livinglabs/futurefactory/index.epx>)

"A Business Perspective on Manufacturing Research"

The talk outlines current business needs, challenges and opportunities based on customer feedback received during the last three years. The domain of Machine-to-Machine communication (M2M) in manufacturing and service management will be used to highlight selected examples.

Dr. Jochen Rode holds a diploma in business & information technology as well as a masters and doctoral degree in computer science. He has a professional background in computer networks, software engineering, human computer interaction and manufacturing. Jochen joined SAP AG in 2005 and worked as development architect and program manager primarily on topics related to Machine-to-Machine (M2M) communication, in particular within the manufacturing industry. In 2008 he launched the SAP Research Future Factory Initiative (www.sap.com/futurefactory) and currently leads the M2M/Internet-of-Things research team at SAP Research in Dresden/Germany.



Dan Nagy

Managing Director

IMS Inter-Regional Secretariat

www.ims.org



"The IMS Global Platform Services for Manufacturing Research and Innovation"

For 17 years, IMS has been the only government supported multi-lateral program offering coaching and networking services that foster international consortium building for projects to advance manufacturing science and innovation. The IMS program provides the framework and support for conducting international research among large business enterprises, small-to-medium enterprises, universities, and research institutions. It has established five areas of Manufacturing Technology Platforms, namely *Sustainable Manufacturing and Safety, Energy Efficiency, Key Technologies, Standards and interoperability and Education*. Furthermore, IMS provides coaching services by experienced project managers throughout its network free of charge for member countries, project workshops, supports international and local networking activities, and is a premier sponsor of the World Manufacturing Forum (WMF). The presentation will give an overview of these activities including an update of nascent projects and preview of the WMF 2012.

Dan Nagy is Managing Director of the Inter-Regional Secretariat of Intelligent Manufacturing Systems Scheme, an international industry-led and government-supported collaborative manufacturing R&D program of the European Union, Japan, Korea, Switzerland, and United States. He is responsible for managing activities related to the IMS international strategy, program development, IMS Manufacturing Technology Platforms. Mr. Nagy joined IMS in July 2002 and has served in Washington D.C., Seoul, Korea, and currently resides in Bern, Switzerland.



Takis Varelas

Danaos Management Consultants | Director

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"Energy management operations in shipping industry"

Management of operations in shipping industry requires the view of the big picture in holistic manner. On board data acquisition systems, communications over satellite links and appropriate resources planning infrastructure should be integrated according to the golden rule where the total is much greater than the sum of parts in order to maximize efficiency.

By extending the problem domain dimensions and the number of variables the problem complexity is increased significantly and the proper decision for efficiency is hard to achieve without the power of analytics and operation research techniques.

This presentation is focused on the methodology, the optimization techniques, the objectives and the proof of concept of an advanced intelligent system focused on energy efficiency maximization, lowering of carbon emissions and optimum weather routing which has been implemented for shipping as an integration paradigm for similar production activities.

Takis Varelas joined Danaos group (www.danaos.gr) in 2004 as R&D director. He has spent more than thirty years in managerial positions in shipping industry and information technology. He has acted as Professor of Management Information Systems and Director of IT laboratory until from 1985 – 1996 at the Technical University of Crete. He is an Edelman academy laureate and has been awarded with the worldwide highest distinction in OR as author of ORISMA system. He participated in several EU and international research projects such as FLAGSHIP, E-MAR and SEAROUTES. He is author of more than 60 papers and books and guest speaker in several international conferences.



Thilo Sauter

Austrian Academy of Sciences

Director of Institute for Integrated Sensor Systems

<http://www.iiss.oeaw.ac.at>



"ICT integration challenges in manufacturing: from the device to the enterprise level"

Information exchange is the key to truly integrated enterprises. What has been only a vision back in the 1970s is now coming true thanks to the tremendous advances in the ICT domain and above all the Internet revolution. Still, modern ICT also poses challenges when applied in industrial environments. The talk will look at some of them, such as networking concepts for automation systems, their integration with the enterprise level, special demands for distributed and flexible manufacturing approaches, and the inherent security issues emerging with all integration solutions.

Thilo Sauter is Assistant Professor with tenure at the Vienna University of Technology and director of the Institute for Integrated Sensor Systems at the Austrian Academy of Sciences. His professional expertise includes IC design, smart sensors, and automation networks with a focus on real-time and interconnection issues. He is AdCom member of the IEEE Industrial Electronics Society and the IEEE Sensors Council and past chair of the IES TC on Factory Automation. He has been working in fieldbus standardization for more than 15 years and had leading positions in several international research projects concerned with industrial communication and enterprise integration.



Rolf Riemenschneider

European Commission, DG Connect Research Programme Officer

Unit Embedded systems & Control



"ICT-driven innovation in the Factories of the Future"

The Factories of the Future (FoF) initiative as part of the European Commission's Economic Recovery Plan aims at helping European manufacturing enterprises to adapt to global competitive pressures by improving the technological base of manufacturing across a broad range of sectors. The European Commission has launched its last Work Programmes under FP7 for 2013. At the same time, preparation for the Horizon 2020 Programme (2014-2020) is continuing. The objective of this presentation is to review the current research activities under the Factories of the Future (FoF) ICT programme and to present the content of Challenge 7 "ICT for the Enterprise and Manufacturing" under ICT Work Programme 2013 as well as to give a brief update on the first outcomes of road-mapping and stakeholder consultation activities related to Horizon 2020.

Rolf Riemenschneider, Ph.D., is Research Programme Officer at the European Commission, Directorate Information Society, Unit Embedded systems & Control. He received the Dipl.Ing. degree from the Technical University of Darmstadt, Germany, in 1990 focusing on microwave technologies and optical communications. Before joining the Commission in 2001 he worked as an engineer for consulting and project management on behalf of the German government (Federal Ministry of Education and Science - BMBF): Since 2002, he is managing projects in the following areas: Advanced Computing, Monitoring and Control and Factories of the Future. At present he is assigned Research Programme Officer in the FP7 programme, specifically for the area of the Public-Private Partnership (PPP) related to ICT for Factories of the Future. Current research interests cover ICT for manufacturing, especially manufacturing design & PLM, visualization and simulation and architectures for novel process automation and control.



Filip Geerts

General Director

CECIMO-European Association of the Machine Tool Industries

Chairman of the EC's Working Group on Advanced Manufacturing Systems (Key Enabling Technologies – KET AMS)

www.cecimo.eu



"Sustainable Manufacturing: towards a competitive industrial base in Europe"

In the recent decades, we have witnessed an unprecedented industrialization across the world. This unsustainable pattern of economic growth has caused concerns around the world and triggered the demand for sustainable products and services which are economically sound for business; consume energy and raw material at minimum level; promote health and safety for all; and offer more and better jobs. There is a growing body of knowledge suggesting that only such sustainable solutions can address social, economic and environmental concerns at the same time and improve the quality of life. Given that, sustainable manufacturing has become an important issue for many manufacturers, particularly in Europe. Many European manufacturers have introduced processes and management systems aiming sustainability in order to increase their competitiveness and improve the quality of life for all. Under this framework, the presentation will outline the characteristics and competitiveness of European manufacturing and offer a policy framework to improve the competitiveness of European manufacturing through sustainability.

Filip Geerts, is Director General of CECIMO, the European Association of the Machine Tool Industries, Chairman of KET AMS and a professional in international, EU and national public and regulatory affairs. He is specialised in the management of corporate and governmental affairs departments of companies, national and EU trade associations and non-profit organizations. He was deputy-director for the largest Belgian association for the technological industry, public and regulatory affairs manager for IBM Europe, Middle East and Africa and secretary general for numerous European trade associations in e.g. the ICT, the electro-medical, lighting and environmental sector. He has degrees from Insead Fontainebleau and Singapore, London School of Economics, Vlerick, College of Europe, The Catholic University of Louvain-la-Neuve and the Catholic University of Leuven in commercial engineering.



Andrea Gentili

European Commission, DG Research and Innovation

Deputy Head of Unit, G.2: New forms of production



"The FoF PPP call in WP2013 and future opportunities for manufacturing R&I in Horizon2020"

The talk will offer an overview of the current Private Public Partnerships call for research proposals under NMP WP2013. The individual target outcomes will be presented, linking current expected impact with recent and past activities under NMP, as well as with future opportunities for Manufacturing Research & Innovation in the new Horizon 2020 Programme.

Andrea Gentili is a mechanical engineer graduated at the University of Pisa in Italy. After some experience in industry as production manager in a company in the consumer-goods sector, in 1995 he joined the Ecole de Mines d'Albi in France as researcher in the field of numerical models and optimisation. In 1996 he came back to industry and joined, as technical director, an American company in the field of engineering. In 1998 he became associated of a French SME providing software development and engineering services for the automotive and aerospace sectors.

In 2001 he joined the European Commission's Research Directorate-General taking the responsibility in the FP6 NMP programme for machining, followed by mechanical engineering, intelligent mechatronics, micro-manufacturing and, lately, enabling production systems. Since 2004 he took the responsibility for the setting-up and running of the European Manufacture Platform and all the horizontal activities with the European Technology Platforms related to manufacturing. In January 2009, he has been appointed responsible for the Commission for the "Factories of the future" Public-Private Partnership included in the European Economic Recovery Plan, adopted by the European Commission in November 2008.

Andrea Gentili is currently Deputy Head of the Unit G2 "New forms of production" of the Directorate "Industrial Technologies" in DG RTD (Directorate General for Research and Innovation) of the EC.