The Conference is an official event of the programme of the Lithuanian Presidency of the EU Council
Dear ManuFuture conference participant,

The EU needs more research and innovation for a sustainable, competitive EU industry which is able to create new jobs, boost economic growth and competitiveness and make people’s lives better.

A successful manufacturing sector is vital to our innovation ecosystem.

It employs a large number of our scientists, engineers and technicians and accounts for two thirds of business R&D spending.

Today and tomorrow at MF2013 we will discuss how H2020, our new EU Framework Programme for Research and Innovation running from 2014 to 2020, can contribute to creating sustainable economic growth and jobs and reinforcing Europe’s international competitiveness.

The industrial leadership pillar of H2020 will bridge the gap between research and the market. With the focus on industrial leadership, we aim to speed up the development of the technologies and innovations that will underpin tomorrow’s businesses and help innovative SMEs to grow into world-leading companies.

ManuFuture conferences are bi-annual events organized in countries holding the Presidency of the Council of the European Union. I am grateful to the Lithuanian Presidency for hosting this important event.

I am convinced that we are going to have stimulating and fruitful discussions which will help to promote effective collaboration for a more sustainable and competitive manufacturing industry in the EU.

Herbert von Bose
Director of Directorate G – Industrial Technologies, European Commission, DG for Research & Innovation
Dear participants,

It is my great pleasure to welcome you to the conference “Manufuture 2013”.

The conference is organized during the Lithuanian Presidency of the Council of the European Union 2013 and it aims to serve as a forum for the stakeholders from business, academia and policy leaders to exchange views on the future perspectives of manufacturing industries.

I believe that integrity of R&D and industry’s collaboration lies within the complexity of discussions, common solutions and leading partnerships. If we are to meet Europe’s competitiveness needs on the global arena, research and innovation must become the core for the industrial transformation. Professional transformation of ideas into commercial outputs, securing the whole innovation value chain, should produce high-added-value products, processes and services for the market, ensuring high-skills employment and creating social benefit for the future knowledge-driven economy.

Therefore the “Manufuture 2013” event is an excellent opportunity to discuss possible roadmaps for manufacturing industry as well as related research and innovation activities, the efficiency of Horizon 2020, EU regional and national R&D and innovation support policies and their synergy for the upcoming 2014-2020.

I kindly invite all of you to actively participate in the discussion contributing to the creation of credible, growing and open Europe.

Prof. Dainius Pavalkis
Minister of Education and Science, republic of Lithuania

———

Dear colleagues,

It is my great honour and pleasure to welcome you on behalf of the Organising Committee. On 6-8 October 2013, the Manufuture community will gather in Lithuania – a country which re-joined the market economy community two decades ago, and now has one of the most rapidly growing economies in the EU.

The keynote of the Manufuture 2013 Conference – sustainable re-industrialization of Europe within the HORIZON 2020 Programme – is of utmost importance for the future of manufacturing in Europe. During the conference, this topic will be brought to light by presentations on the HORIZON 2020 Programme itself, as well as discussions on the best ways to transform its investments into wealth, growth and jobs by supporting better coverage of the entire innovation cycle, promoting better alignment and complementarity with national and regional policies, funding programmes and creating framework conditions for growth and jobs, and helping the EU and its regions to stay globally competitive.

Since its founding in 2006, the Lithuanian NTP ManuFuture-LT has aimed, within the limits of its competence, to contribute to the growth of long-term competitiveness and international integration of the engineering industry and research in Lithuania and, subsequently, in the entire EU. National and international cooperation and availability of best practice and support within the ETP ManuFuture network have thus far been the key factors for the success of the NTP ManuFuture-LT, the same approach was used while organising the Manufuture 2013 Conference. The Organising Committee did its best to put together a conference that will provide long-term value added for its participants as well as stakeholders of sustainable competitive manufacturing in Europe.

The Organising Committee would like to thank the patron of the conference – President Dalia Grybauskaitė – for her unswerving support for the conference and its ideas.

Our special thanks to the DG Research and Innovation (in particular, Director for Industrial Technologies Herbert von Bose and the project officer Neophytos Neophytou) as well as the Ministry of Education and Science of Lithuania (Minister Prof Dainius Pavalkis) for their financial support and organisational guidance. We are indebted to the team of the Project FP7-NMP-2012-CSA-6 No. 319179 ‘M-Future2013’ and its coordinator Danguolė Dragūnienė in particular for their daily involvement and organisational support. We would also like to thank the International Advisory Committee of the conference (especially its chairman, Dr Massimo Mattucci) as well as the High Level Group (Chairman – Prof Heinrich Flegel) and the Implementation Support Group (Chairman – Prof Francesco Jovane) of the ETP ManuFuture for their programme guidance and fruitful round-table discussions. We are grateful to the EFFRA Executive Director Željko Pazin and Research Programme Manager Chris Decubber for their valuable contribution related to the activities of the PPP “Factories of the Future”, as well as to the conference chairpersons for their active participation in building the conference programme. We are also extremely thankful to all media promoters and sponsors of the conference.

Finally, our warmest thanks go out to our colleagues from the Engineering Industries Association of Lithuania LINPRA and members of the NTP ManuFuture-LT for their personal commitment, sincere efforts and professional work in organising Manufuture 2013.

On behalf of the Manufuture 2013 Organising Committee –

Dr. Henrikas Mykolaitis
Chairman of the Conference Organising Committee
National Coordinator of the NTP ManuFuture-LT
Director and Vice President of LINPRA, the Engineering Industries Association of Lithuania
CONFERENCE OPENING SPEAKERS

DALIA GRYBAUSKAITĖ
President of the Republic of Lithuania

MÁIRE GEGHEGAN-QUINN
European Commissioner for Research, Innovation and Science

PROF. DAINIUS PAVALKIS
Minister of Education and Science, Republic of Lithuania

DR. HENRIKAS MYKOLAITIS
Chairman of the Conference Organising Committee
Director and Vice-President of LINPRA, the Engineering Industries Association of Lithuania

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DAIMLER AG, Germany

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University of Warwick, United Kingdom

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CEEMET, Belgium
LINPRA, THE ENGINEERING INDUSTRIES ASSOCIATION OF LITHUANIA

LINPRA is an independent self-governing business association. Both nationally and internationally, it represents the interests of the Lithuanian mechanical, electrical, electronic and metalworking industrial sector and seeks to promote the commercial competitiveness thereof. LINPRA is open and flexible in finding ways to most effectively cooperate with the sector companies and their foreign partners.

MINISTRY OF EDUCATION AND SCIENCE OF THE REPUBLIC OF LITHUANIA

TUT conducts scientific research in technology and architecture and provides higher education within these fields. TUT started operating in the form of a foundation in the beginning of 2010. The Department of Production Engineering of TUT is the leading university level educational and research institution in Finland in the field of production engineering. The department’s mission is to produce sustainable and competitive innovations for the manufacturing industry now and in the future.

UAB EUROPARAMA

UAB “Europarama” is the experienced and forward-looking business consulting company offering an access to public and public-private funding for technology oriented SMEs and high-tech developers. The broad range of competences includes products ideas generation as well as development, European and national projects’ preparation and its administration. The company has a long tradition of consulting for leadership and innovation in European market and has the competence of working with companies from different national business environments.

SCIENCE AND TECHNOLOGY PARK OF INSTITUTE OF PHYSICS (STP)

STP is a non-profit organization, established in 2010, active in the fields of physical and technology sciences, innovations, knowledge society, scientific research as well as collaboration of science, studies and business. Implementation of research results and promotion of cooperation between science and industry are main activities of STP.

The objective of STP is to provide assistance for enterprises, working in the fields of applied research and experimental development, commercialize results of scientific research carried out by science and studies institutions, and stimulate integration of business, science and studies in the fields of physical and technological sciences, thus promoting export stimulation, increase of competitiveness of the country and induce the growth of knowledge-based economy.
The conference is part of the M-Future2013 project, which is being funded by the European Union’s (EU) Seventh Framework Programme for Research and Technological Development (FP7), within the specific programme “Cooperation”.

The conference is part of the official programme of the Lithuanian Presidency of the Council of the European Union.
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<tr>
<td>17:00-18:30</td>
<td>International Advisory Committee Meeting (Vilnius University)</td>
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<td>19:00-21:00</td>
<td>Welcome Reception for all participants (Palace of the Grand Dukes of Lithuania)</td>
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**DAY 2. MONDAY, OCTOBER 7. LOCATION: LI TEXPO CENTRE**

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<tr>
<td>09:00-09:20</td>
<td>Conference Opening, Raising of the ManuFuture Flag</td>
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<td>Chair: Dr. Henrikas Mykolaitis, Chairman of the Conference Organising Committee, Vice President and Director of LINPRA, the Engineering Industries Association of Lithuania</td>
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<td>Speakers:</td>
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<td>- Dalia Grybauskaitė, President of the Republic of Lithuania</td>
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<td>- Máire Geoghegan-Quinn, European Commissioner for Research, Innovation and Science (video address)</td>
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<td>- Prof. Dainius Pavalkis, Minister of Education and Science of the Republic of Lithuania</td>
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<td>09:20-11.00</td>
<td>Plenary Session P1, HORIZON 2020: Context and Vision for the European Manufacturing and Research</td>
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<td>Chair: Dr. Massimo Mattucci, Co-Chairman of EFFRA, Senior Corporate VP of Comau Group</td>
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<td>Presentations and speakers:</td>
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<td>- HORIZON 2020: Research and Innovation in Europe</td>
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<td>Herbert von Bose, Director of Directorate G – Industrial Technologies, European Commission, DG for Research &amp; Innovation</td>
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<td>- Innovation in European Manufacturing</td>
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<td>Antti Peltomäki, Deputy Director-General for Enterprise and Industry, European Commission</td>
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<td>- Industry’s Visions and Concepts for Sustainable Economic Growth and Jobs</td>
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<td>Prof. Heinrich Flegel, Member of the Supervisory Board, Daimler AG/ Chairman of ETP Manufuture</td>
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<td>- How to Ensure the Shift from R&amp;D to Innovation?</td>
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<td>Sandro Bonomi, President of ORGALIME</td>
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<td>- Towards Sustainable Growth in Manufacturing Industry</td>
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<td>Tomas Hedensborg, Group CEO, Fastems Oy Ab</td>
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<tr>
<td>11.00-11.30</td>
<td>Coffee Break</td>
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11.30-13.10 Plenary Session P2. HORIZON 2020: Roadmaps for Manufacturing
Chair: Adrian Harris, Director General of ORGALIME
Presentations and speakers:
- **Factories of the Future & HORIZON 2020**
  Dr. Massimo Mattucci, Co-Chairman of EFFRA, Senior Corporate VP of Comau Group
- **The SPIRE PPP Roadmap**
  Dr. Klaus H. Sommer, President of A.SPIRE, Chairman of the Board of SusChem, SVP and Head at Bayer Technology Services, Customer and Product Management
- **EIT KIC on Added Value Manufacturing**
  Prof. George Chryssolouris, LMS Director, Laboratory for Manufacturing Systems & Automation (LMS), University of Patras
- **Reinvent Education with Industry**
  Uwe Combüchen, Director General of CEEMET

13.10-14.00 Lunch

14.00-16.00 Parallel Workshop Session W1. Factories of the Future (FoF): FP7 Projects and Initiatives - Results and Business Opportunities

W1.1 Flexible and High Performance Manufacturing: Impact through Clustering Activities
Chair: Neophytos Neophytou, Research Programme Officer, European Commission, DG for Research & Innovation

W1.2 Supply Chains for Customised Products
Chair: Prof. Tulio Antonio Maria Tolto, Director of Institute of Industrial Technologies and Automation, National Research Council of Italy (CNR)

W1.3 Digital and Smart Factories
Chair: Engelbert Westkämper, Em. Director, Fraunhofer IPA/ IFF and GSAme, University of Stuttgart

W1.4 Social and Environmental Sustainability
Chair: Prof. Johan Stahne, Professor at Chalmers University of Technology, Head of division, Co-director of Chalmers' Production Area of Advance

W1.5 Manufacturing: the Enabler for the Integration of Technologies
Chair: Dr. Riccardo Bueno, Director for the Programmes Area, TECNALIA

16.00-16.20 Coffee Break

16.20-18.30 Plenary Session P3. FP7 Results and Outlook for HORIZON 2020: Research & Innovation for Sustainable Industrial Competitiveness
Chair: Prof. José-Lorenzo Vallés, Head of Unit, European Commission, DG for Research & Innovation
Presentations and speakers:
- Round table: FoF FP7 Projects and Initiatives – overview of W1 parallel sessions
  Chairpersons of W1.1 – W1.5
- **FoF PPP Projects Results and Outlook**
  Maurizio Gattiglio, Chairman of EFFRA/ Executive Vice President of Prima Industrie S.p.A.
- **Nanostructures for Zero Emission Future Transportation, Energy & Economy for Sustainable Industrial Competitiveness**
  Prof. Henning Zoz, CEO & President of Zoz Group
- **Horizon 2020: FoF Call of 2014**
  Prof. José-Lorenzo Vallés, Head of Unit, European Commission, DG for Research & Innovation
W2.5 Future-Oriented Activities: Mutual Benefits towards Grand Challenges
Chair: Dr. Augusta Maria Paci, Technologist Director of Chemical Science and Materials Technology Department, National Research Council of Italy (CNR)

Presentations and speakers:
- Industrial Landscape Vision 2025 for Early Standardization
  Dr. Fabiana Scapolo and Peter Churchill, European Commission - Joint Research Centre
- The Nexus between Energy, Environment and Transports Services
  Dr. Andrea Ricci, Vice President, Institute of Studies for the Integration of Systems (ISIS)
- Measures to Realize Sustainability in Manufacturing
  Dr. Mikko Verneri Koho, Senior scientist, VTT Technical Research Centre of Finland
- Key Message for the Future of Manufacturing Research
  Prof. Francesco Jovane, Emeritus Professor, Politecnico di Milano

W2.6 Service-Oriented Architecture as an Integrative Backbone for Cyber Physical Systems
Chair: Dr. Rolf Riemenschneider, Research Programme Officer, European Commission, DG for Communications Networks, Content & Technology

Presentations and speakers:
- Service-oriented Architecture: A world-wide adopted ICT-Paradigm towards Industrial Implementations of Cyber Physical Systems
  Prof. Armando Walter Colombo, Research Program Manager at Schneider Electric Automation GmbH and Director of Institute for Industrial Informatics, Automation and Robotics, University of Applied Sciences Emden-Leer
- Implementing SoA in Industrial Cases: The SME Viewpoint
  Otto Karhumäki, Technology Director of Fluidhouse Oy
- Cyber-Physical-Systems in the Cloud Era
  Stamatis Karnouskos, Research Expert, SAP
- The Factory Infostore: Using SoA to Easily Create Factory Applications
  Prof. Lastra, Jose L. Martinez, Professor at Tampere University of Technology
- PLANTCockpit – a Service-oriented System for Enhancing Productivity in Manufacturing
  Prof. Martin Wolfschläger, Chair of Industrial Communications, Director of the Institute of Applied Computer Science, Faculty of Computer Science of TU Dresden
- ARTEMIS SRA
  Laia Gide, Advanced Studies Europe Director, THALES
- The ARTEMIS Innovation Pilot Project for Production and Energy Systems Automation
  Prof. Jerker Delsing, Professor at Lulea University of Technology, Coordinator of the Arrowhead project

13.10-14.00 Lunch

14.00-16.00 Plenary Session P5: HORIZON 2020 and International Dimension
Chair: Herbert von Bose, Director of Directorate G – Industrial Technologies, European Commission, DG for Research & Innovation

Presentations and speakers:
- Research Opportunities and International Collaboration through IMS
  Dan Nagy, Managing Director of Intelligent Manufacturing Systems
- Collaboration in Manufacturing through Collaboration in Innovation
  Prof. Semen L. Musher, Managing Director, Russian Foundation for Technological Development
- Transformation of a Consumer Electronic Business in Response to Global Competition
  Dr. Brian Li, Managing Director, GP Industries Limited
- How to Attract on a Global Scale Young Talents to Manufacturing
  Prof. Marco Tasich, Professor of Advanced Manufacturing Systems, Politecnico di Milano
- A new Business Perspective: Competitive Sustainable Globalisation
  Prof. Francesco Jovane, Emeritus Professor, Politecnico di Milano

16.00-16.30 Conference Closing, Handing over of the ManuFuture Flag
- Herbert von Bose, Director of Directorate G – Industrial Technologies, European Commission, DG for Research & Innovation
- Prof. Heinrich Fliegel, Member of the Supervisory Board, Daimler AG/ Chairman of ETP ManuFuture
- Dr. Henrikas Mykolaitis, Chairman of the Conference Organising Committee, Vice President and Director of LINPRA, the Engineering Industries Association of Lithuania
PRESENTATIONS

Plenary Session P1
09:20 – 11:00 HORIZON 2020: Context and Vision for the European Manufacturing and Research

Horizon 2020, the European Union’s new funding programme for research and innovation for the period 2014-2020, reflects an aspiration to deliver ideas, growth and jobs for the future. It represents a clear break from the past, as it bring all existing EU research and innovation funding, including the Framework Programme for Research, the innovation related activities of the Competitiveness and Innovation Framework Programme and the European Institute of Innovation and Technology (EIT), into a single framework programme.

Chair: Dr. Massimo Mattucci, Co-Chairman of EFFRA, Senior Corporate VP of Comau Group

HORIZON 2020: Research and Innovation in Europe

Herbert von Boase, Director of Directorate G – Industrial Technologies, European Commission, DG for Research & Innovation

The EU needs more research and innovation for a sustainable, competitive EU industry which is able to create new jobs, boost economic growth and competitiveness and make people’s lives better. HORIZON 2020 (H2020), our new EU Framework Programme for Research and Innovation running from 2014 to 2020, can contribute to creating sustainable economic growth and jobs and reinforcing Europe’s international competitiveness. The industrial leadership pillar of H2020 will bridge the gap between research and the market. With the focus on industrial leadership, we aim to speed up the development of the technologies and innovations that will underpin tomorrow’s businesses and help innovative SMEs to grow into world-leading companies.

Innovation in European Manufacturing

Antti Peltomäki, Deputy Director-General for Enterprise and Industry, European Commission

Industry is the cornerstone of our economy. Without industry, an economy loses its capacity to innovate and to create jobs. For each job in the manufacturing sector, an additional job is created in the related services sector. Manufacturing accounts for 75% of EU exports and for 80% of innovation. Therefore, the European Commission presented last year, its revamped strategy to boost industry and to reverse the manufacturing decline. Innovation is also crucial for a sustainable industrialisation of Europe. Advanced manufacturing technologies are one of the priority areas for such investment. New technologies have the potential to change the industrial landscape and make Europe more competitive. Horizon 2020, the EU’s new research and innovation framework programme, will provide substantial funding opportunities along the whole innovation chain. Public-private partnerships such as Factories of the Future and SPIRE should ensure that R&D efforts follow the needs of industry. But investment in R&D is not enough. Obstacles for the market uptake of advanced manufacturing technologies must be eliminated. Favourable framework conditions for innovation and growth will allow European industry to lead in our quest for an industrial revolution. We must seize this momentum. Industrial policy is high on the European agenda as the September Competitiveness Council launched the political debate in the run-up to the February 2014 European Council on industrial competitiveness and growth.
**Industry's Visions and Concepts for Sustainable Economic Growth and Jobs**

Prof. Heinrich Fieg, Member of the Supervisory Board, Daimler AG/ Chairman of ETP Manufuture

Towards re-industrialization of Europe: European trade competitiveness is based on knowledge-intensive goods such as machine tools, automobiles, aircrafts, medical devices, as well as pharmaceuticals and chemicals. Successful companies make markets. This is only possible if they meet customer needs proactively. This requires constant innovation in order to be always one step ahead of competitors. Therefore Europe needs to invest in new technologies and innovation. Manufuture’s Vision of “Sustainable globalization” and must be the guideline for the development of future products and processes.

We are on the eve of a new technological era which some analysts have called new industrial revolution, where cleaner technologies fundamentally change production patterns and also the global value chain. We must seize the opportunities brought by these changes. The manufacturing sector is of vital importance as a source of value creation, income and prosperity. On almost any product, you can put the sticker “manufacturing inside”. That is why the manufacturing sector is of vital importance to foster economic growth and eventually job creation and has a pivotal role to play in prompting investment and innovation in particular as a vehicle for the introduction of radical innovation by integration of new and advanced technologies in high-demand products and solutions.

**How to Ensure the Shift from R&D to Innovation?**

Sandro Bonomi, President of ORGAUME

What do entrepreneurs need, what entrepreneurs do not need. Europe must now find its path back to more growth and more jobs and profit better from the beginning of the economic upswing. Some first signs of recovery of the overall EU economy are becoming apparent at a macroeconomic level. This is encouraging and a necessary first step, but what is now the essential next step is not yet there: investment. Investment in Europe is still stagnating.

For ensuring private investment, coming from both inside and outside Europe, we need to create attractive framework conditions in Europe. This includes a favourable regulatory framework, for example: less legislation and more stable and predictable legislation, flexible labour markets, greater legal predictability and stability, better access to energy at competitive market conditions and more. Also instruments and funding for research and development are no doubt one very important element in the policy mix for attracting investments. As we know, there is fierce competition between Europe, Asia, the United States and other regions. For the moment Europe is under pressure: not only is manufacturing leaving Europe, but also European world-class researchers are moving to the US and Asia. The consequence is that the result of European research is not commercialised in Europe. We need to reverse this trend. The key question for policymakers in Europe should be: if our companies invest in research, development and innovation, will they do it in Europe? For this, it is the framework conditions under which companies operate that will make or break the future development of the engineering industry in Europe. Some of these framework conditions will change with Horizon 2020 entering into force. The European Institutions have decided in future the European Programmes will focus not so much as in the past on research, but more on the link between research and innovation. This is a policy shift that Orgalime fully supports. Now the challenge is to make this work. Especially to make it work for the backbone of Europe’s economy, the SMEs. SMEs need to get involved and will benefit from the new Framework Programmes. This will be an indispensable element of the innovation chain: manufacturing enables technological innovations to be applied in the production of goods and services which are in demand in the market, and is key to improve new product accessibility and achieving the desired result. This session will highlight the future of Manufacturing R&D & prospects within the selected areas.

Chair: Adrian Harris, Director General of ORGALIME

**Towards Sustainable Growth in Manufacturing Industry**

Tomas Hedenborg, Group CEO, Fastems Oy Ab

Sustainable growth is one of key targets of the Europe 2020 strategy, i.e. a strategy for smart, sustainable and inclusive growth. Sustainable development means that the development meets the needs of the present but without compromising the ability of future generations to meet their own needs. The manufacturing industry is in a key role to achieve growth and jobs in Europe. It needs to work for economic growth but also take care of resource efficiency and reduced environmental impacts, as well as the workforce and company’s social responsibilities. The presentation will discuss the current trends and challenges on the way to sustainable growth from the Finnish manufacturing industry’s point of view.

**Plenary Session P2**

11:30 – 13:10 HORIZON 2020: Roadmaps For Manufacturing

According to the EFFRA Strategic Multi-annual Roadmap Factories of the Future 2020, nearly one in ten (9.8%) of all enterprises in the EU-27’s non-financial business economy were classified as manufacturing. Manufacturing in 2009 – approximately 2 million enterprises in total. Micro, small and medium-sized enterprises (SMEs) are the backbone of the manufacturing industry in Europe. SMEs provide approximately 45% of the value added by manufacturing, and account for some 59% of manufacturing employment. Manufacturing is an indispensable element of the innovation chain: manufacturing enables technological innovations to be applied in the production of goods and services which are in demand in the market, and is key to improving new product accessibility and achieving the desired result. This session will highlight the future of Manufacturing R&D & prospects within the selected areas.

Chair: Adrian Harris, Director General of ORGALIME

**Factories of the Future & HORIZON 2020**

Dr. Massimo Mattucci, Co-Chairman of EFFRA, Senior Corporate VP of Comau Group

Manufacturing is vital for Europe’s economy and is central to re-industrialisation in Europe. Research, innovation and development hold the key to creating a more competitive and sustainable industry in Europe. Four years on from the launch of the ‘Factories of the Future’ public-private partnership by European Commission President José Manuel Barroso, the Manufacture community can look with confidence at a record of success. Four research calls have resulted in 140 projects across multiple sectors with the participation of approximately 1,000 organisations throughout Europe. Such participation has resulted in a reversal of the trend of decline in industrial participation and an increased participation by SMEs. At Manufacture 2013 the new strategic research roadmap of the ‘Factories of the Future’ public-private partnership – ‘Factories of the Future 2020’ – will be presented in the context of Horizon 2020. This new roadmap and the continuation of the ‘Factories of the Future’ public-private partnership under Horizon 2020 is largely the result of the aforementioned successes.

Within Factories of the Future 2020 industrial stakeholders, led by EFFRA, have identified, the overall challenges facing European industry and the technologies and enablers required to overcome these challenges. In order to address the challenges using the technologies and enablers, six research priority domains are identified in ‘Factories of the Future 2020’ and will be presented at Manufacture 2013.
The SPIRE PPP Roadmap

Dr. Klaus H. Sommer, President of A.SPIRE, Chairman of the Board of SusChem, SVP and Head at Bayer Technology Services, Customer and Product Management

Europe's objective of sustainable growth can only be achieved through a strong and innovative reshaping of its industrial base. Eight world-leading European industry sectors (chemical, steel, engineering, minerals, non-ferrous metals, cement, ceramics and water) realised the urgency to create growth, to increase the competitiveness of Europe in a global market and to rejuvenate the European process industry, and joined forces to propose the SPIRE (Sustainable Process Industry through Resource and Energy Efficiency) Public-Private Partnership. Through a first-ever cooperation, they set up common aspirations and developed a strategic research and innovation roadmap to 2030, which addresses the key components and specific challenges of the process industry and proposes a unique symbiotic approach. SPIRE aims at realising two key resource and energy efficiency targets within the 2030 time horizon:

1. A reduction in fossil energy intensity of up to 30% from current levels
2. Up to 20% reduction in non-renewable, primary raw material intensity compared to current levels.

SPIRE’s high ambitions are matched by strong industrial commitment on an unprecedented scale and, through the expected synergies, Europe could make a big leap to enhance its competitiveness and sustainability and achieve its goals for smart, inclusive and sustainable growth.

EIT KIC on Added Value Manufacturing

Prof. George Chryssolouris, LMS Director, Laboratory for Manufacturing Systems & Automation (LMS), University of Patras

The European Institute of Innovation and Technology (EIT) is an EU body set up in 2008 with the ambition of boosting Europe’s innovation capacity. Knowledge and Innovation Communities (KICs) are excellence-driven partnerships that act as EIT’s main operation arms. EIT is expected to launch a call for a Knowledge and Innovation Community (KIC) on Added Value Manufacturing (AVM).

A KIC on AVM is expected to provide added value and contribute to a manufacturing renaissance in Europe.

A KIC on AVM is expected to:
- Help meeting Horizon 2020 priorities
- Contribute to the development and deployment of more sustainable, resource-efficient and competitive manufacturing
- Play an important role in re-shaping the education landscape
- Enable capacity building for interaction and promotion of trans-disciplinary skills and competences
- Foster the creation of interconnected regional clusters with local transfers and collaboration
- Mobilize investment and long-term commitment from the business

The Teaching Factory concept has been suggested as a relevant flagship paradigm for the seamless integration of manufacturing research, innovation and education activities (a knowledge triangle perspective) within the KIC.

The industrialization of knowledge would be the strategic hybrid business perspective of the KIC, addressing both the stimulation of product/process innovation in large manufacturing firms & SMEs and the creation of new business through spin-offs and start-ups.

Reinvent Education with Industry

Uwe Combichen, Director General of CEMET

Parallel Workshop Session W1

14:00 – 16:00 Factories of the Future (FoF): FP7 Projects and Initiatives - Results and Business Opportunities

Since its launch in 2009, the Factories of the Future public-private partnership has proven to be a highly successful model for close co-operation between industry and the European Commission. In this cooperation, the European Commission’s Directorate-Generals for Research and Innovation (DG RTD) and Communications, Networks, Content and Technology (DG CONNECT) have devoted € 650 million stemming from the 7th Framework Programme for Research, Technological Development and Demonstration (FP7) for the 2010-2013 period. In four years, 140 projects have been launched involving over 700 organisations across Europe. These parallel workshops will discuss the results that have been achieved and the impact of successfully run projects representing different research priorities of the European manufacturing industry, as well as topics which are considered imperative for Europe, addressing both societal challenges and industrial competitiveness and opening also new business opportunities.

Workshop 1.1

Flexible and High Performance Manufacturing: Impact through Clustering Activities

Chair: Neophytos Neophytou, Research Programme Officer, European Commission, DG for Research & Innovation

The session will highlight FoF project results in this area. Seventeen running FoF projects close to completion are going to attend and will present their results which are currently or will be exploited in the near future. The interaction and network among the projects will help to identify business opportunities and facilitate the routes to commercialisation. The example of two successful clustering initiatives will be the highlight of the session. One example is the: For zero defects manufacturing (4ZDM) with four running FoF projects, ifacam, Megafit Midemma and Muprod. The second example is a German initiative the: EFFIZIENFABRIK bringing together 31 completed national projects.

Workshop 1.2

Supply Chains for Customised Products

Chair: Prof. Tulio Antonio Maria Toleo, Director of Institute of Industrial Technologies and Automation, National Research Council of Italy (CNR)

Recent market changes force companies to address individual customer requirements and to put more emphasis on the service levels, by reducing response times and increasing quality. This confluence of trends has led managers to move from a traditional functional focus into a more holistic approach where strategic collaborations both at horizontal and vertical level enhance the capability of entering into new markets and prospering in the existing ones. The main objective of this workshop is to discuss the described topics starting from the results of European projects in NMP area in terms of processes, products and networks/systems. The focus is on understanding which level of customization is possible thanks to innovative models of manufacturing aimed at increasing the capability of addressing multiple needs of consumer niches. Emphasis will be given to modelling, designing and configuring the combination of processes, functions, activities, relationships and paths along which products, services and information flow in and among companies. During the workshop, projects covering applications to various industrial sectors will be presented including for example fashion, lighting, health care, each one giving an innovative view on the different dimensions of customized production and analysing direct and indirect impact of their innovation on the market.
Workshop 1.3
Digital and Smart Factories
Chair: Prof. Engelbert Westkämper, Em. Director (retired in 2011), Fraunhofer IPA/IFF and GSSM, University of Stuttgart

Information and Communication technologies are one of the enablers of Manufacturing systems and factories of the future. ICT for manufacturing was one of the main topics in the Manufacture Visions and road Maps. Future Visions are influenced by the innovations of ICT and applications in the technical development for manufacturing systems. Information is available everywhere and at any time and can be presented in a virtual system so that even complex technical solutions are understood in shortest time. Digital products are a computerized representation of products. They are embedded in Product-Life-Cycle Management Systems, which support all operations from the beginning to the end of life. Understanding factories as products leads to digital factories, which represent all objects of factories in digital models. Factory data management systems support operations along the life-cycle of factories and their technical equipment. New IT-systems change the architecture by flexible and networking systems based on internet-technologies. Platforms for communication, whose primary market is the private sectors, have a potential for application in manufacturing industries. They allow the federation of distributed information sources, flexible workflows and flexible configuration of the tools. On factory side all sensors and control units are elements of the shops and generate informations around events. This can be called a ‘smart factory’. Real time information combined with histories and future (simulation) make it possible to realize a new generation of IT-driven factories and enterprises.

Workshop 1.4
Social and Environmental Sustainability
Chair: Prof. Johan Stahre, Professor at Chalmers University of Technology, Head of division, Co-director of Chalmers’ Production Area of Advance

Socially sustainable factories are crucial to the success of European industrialisation. Demographic problems and competence requirements on employees in future advanced European manufacturing will need increased knowledge on how to create socially sustainable workplaces and factories. The support action SO SMART (Socially Sustainable Manufacturing for the Factories of the Future) aims to establish research roadmaps and guidelines for the social well-being of the employees for the Factories of the Future. SO-SMART will address new forms of interaction between process, machinery and human beings in new kind of socially, economically and environmentally sustainable workplaces. By following the guidelines SO-SMART will outline why and how the Factories of the Future can operate profitably while at the same time providing a stimulating environment for the employees. The SO SMART project will develop a socially sustainable ecosystem assessment framework under the perspectives of economic and social sustainability. Further, the project will develop recommendations for companies and stakeholders on how to apply these scenarios.

Workshop 1.5
Manufacturing: the Enabler for the Integration of Technologies
Chair: Dr. Ricardo Bueno, Director for the Programmes Area, TECNALIA

The session will consist of speakers showing recent experiences through projects or other initiatives about the role of manufacturing and manufacturing technologies as the main enabler for the production of products that integrate technologies. The speakers, directly involved in the H2020 initiatives and other projects, will present their new and discuss openly and addressing the questions of the audience, the role of manufacturing in present and future industrial plants, both pilot plants and full production.

Plenary Session P3
16:20 – 18:30 FP7 Results and Outlook for HORIZON 2020: Research & Innovation for Sustainable Industrial Competitiveness

This plenary session summarizes key results and findings of the previous parallel workshops and gives an overview of the first NMP and ICT FoF calls in Horizon 2020.

Chair: Prof. José-Lorenzo Vallés, Head of Unit, European Commission, DG for Research & Innovation

Round table: FoF FP7 Projects and Initiatives – overview of W1 parallel sessions
Chairpersons of W1.1 - W1.5

Nanostructures for Zero Emission Future Transportation, Energy & Economy for Sustainable Industrial Competitiveness
Prof. Henning Zee, CEO & President of Zee Group

This presentation, after some philosophical introduction about mankind and clear thinking will remind us on the ultimate importance of energy availability with respect to ensuring the survival of more and more people on this planet, accompanied to the maintaining and the continued expansion of wealth in modern world. Sun and moon are providing us enough energy possibilities for today & future however, to convert, to store and to transport this energy, we need materials. Thus our future will be ruled by materials at more and more and very much limited resources and consequently by the challenge to provide more materials function at less material consumption. Since Materials consumption contradicts with limited resources, recycling is the other ultimate goal. Both are leading to advanced materials processing with the utilization of larger surface and finer structures. Today’s goal is nanostructure! High Kinetic Processing has been proven as a major route for reducing materials grain size in large volume at economic manufacturing and cost capability as well as the “nanostructure-making-equipment”, the Simoloyer® is well-known including technology and key advantages. The globally first Public Bridge by Zoz/Dyckerhoff High Performance Cement at high strength, virtually endless durability and enormous CO2-emission savings has been set up in Germany in November 2012. Second demonstrator has followed in June 2013 and 3 next bridges are on plan. Zentallium®, the Zee-Super Light Weight material at half Titanium cost approaching press and sintering after hot extruded semi-finished material is on the market. Zentallium® represents grain size stabilized Aluminium utilizing Carbon Nanotubes. Hydrolium®/H2Tank2Go® including Zee-PEMFC approaching the sky (EADS-Bulletin 2012) in the H2 OnAir project with EADS, Airbus, IFR etc. Brining these small H2-solid-state absorber tanks H2Tank2Go® in the air triples the range of the Icaré Solar Airplane and is expected to help for a potential revolution of the refueling infrastructure “on road” which together with the “Power to Gas to Fuel” scenario by Zoz could represent a key marker for the German Energy Turn. H2Tank2Go® and infrastructure model (tank replacement by simple vending-machine e.g. any home depot) including available vehicles / range extender platforms is nominated for the German Environmental Award 2013.
Horizon 2020: FoF Call of 2014

Prof. José-Lorenzo Vallés, Head of Unit, European Commission, DG for Research & Innovation

A number of successful FoF projects have very interesting results to show. We are aiming to share and promote the results and enable industry to identify business opportunities thus facilitating the routes to commercialisation. Manufacturing is vital for Europe’s economy. With Horizon 2020 we are promoting flexibility, and productivity. The presentation will outline FoF challenges within the ICT WP 2014/15 under the industrial leadership pillar (LEIT) of HORIZON 2020.

Horizon 2020: FoF – ICT Call of 2014/15

Max Lemke, Deputy Head of Complex Systems and Advanced Computing Unit, European Commission, DG for Communications Networks, Content & Technology

Dr. Rolf Riemschneider, Research Programme Officer, European Commission, DG for Communications Networks, Content & Technology

Manufacturing of all kinds face a host of challenges, from increased globalization and competition, to shrinking margins, shorter product life cycles and market volatility linked to an increasing burden due to the financial crisis. Information and communication technologies (ICT) are key for enabling manufacturing to flourish and contribute to job growth; offering significant opportunities to improving business agility, flexibility, and productivity. The presentation will outline FoF challenges within the ICT WP 2014/15 under the industrial leadership pillar (LEIT) of HORIZON 2020.
Sustainable Concepts in Agricultural Production Systems. Visions of the MANUFUTURE AET Sub-ETP

Prof. Peter Pickel, Chairman of MANUFUTURE Agricultural Engineering and Technologies Sub-ETP

One important activity within MANUFUTURE is the Agricultural Engineering and Technologies Sub-Technology-Platform (Sub-ETP) which was established in 2006 in the beginning mainly driven by the German VDMA and the VDI-MEG and represents Europe's agricultural engineering research community at the EC Directorate General Research. The AET has developed technology visions with a strong focus on two issues:

1. Development and implementation of visionary production technologies in alignment with MANUFUTURE's main organisation
2. Development of agricultural automation technology in combination with methodologies from industrial production for highly sustainable agricultural manufacturing

This is connected to new power trains in agricultural mobile machinery. As in on-road transport, agricultural machinery will have to meet future greenhouse gas emission goals. There are basically two paths possible. While the conventional path is the biofuels, the second path is the "electric path". In front of automatic machine guidance and control, the essential feature of this electric drive technology is to enable agricultural vehicles becoming mobile "factory like" but mobile tool machines and thus, for developing highly integrated agricultural platforms in seamless cooperation with next generation farm management software. Furthermore, electric mobile machinery will open a new field for electromobility beyond on-road transport systems.

MINAM: Micro and Nano Manufacturing on the Horizon 2020

Konstantin Konrad, Project Manager for Production IT, Fraunhofer Institute for Manufacturing Engineering and Automation (IPA)

MINAM has extended the micro and nanomanufacturing community with relevant European, national and regional initiatives, such as European clusters, Networks of Excellence and ETPs to drive forward an application approach harmonized with common values and goals to reach industrial leadership. On the agenda of MINAM for Horizon 2020 are issues such as key societal needs and to support the full manufacturing cycle by providing innovative high added value manufacturing solutions. With the released ERA and Roadmap end of 2012 in the framework of the European funded project MINAM2.0 CSA, the MINAM community has designed a contribution which is in line with the "value chain approach" introduced by the "key enabling technologies" HLG and, as well as the MANUFUTURE "valley of death", addressing similar topics.

The acceleration of the adjustment of technological capabilities with application requirements needs to be facilitated.

This presentation shows some ideas of different services and instruments to interact especially with regional clusters, which are playing a most relevant role for technology transfer and in order to reach SMEs. MINAM will provide a "one stop shop" to the micro and nano manufacturing linked community.

Additive Manufacturing in Hybrid Settings towards Higher TRL Level Applications

Frits Feenstra, Senior project manager at TNO

Additive Manufacturing (or 3D printing) is currently at the top of the hype cycle. Experts recognize that Additive Manufacturing alone will not deliver advanced products in one go with sufficient surface quality or multi material consistency. Hence advanced manufacturing systems emerge where Additive Manufacturing technologies are used in a smart combination with other advanced technologies such as robotics and laser. This enables the full exploitation of the advantages of both technologies to deliver custom-made individualized end products. Some examples will be presented as well as guidance and directions for future (AM based) developments and related products.
The European Footwear Technology Platform: from the 7th Framework Programme to Horizon 2020

Dr. Emanuele Carpanzano, Chairman of the Footwear European Technology Platform

The results achieved by the Footwear European Technology Platform within Framework Programme V6 will be presented, highlighting their exploitation by industry and their impact on the market and the society. The vision of the Footwear European Technology Platform and the challenges to be faced by the European Footwear sector within the Horizon 2020 programme will be addressed, enlarging the Footwear ETP perspective also to the larger design based consumer goods sector within the Prosumer/Net coordination action.

European Technology Platform

Dr. Rui Jorge Gregório Tocha, General-Manager of CENTIMFE

The European Tooling Industry has been identified as a strategic sector for the growth of the European economy and qualified employment in Europe, due to the support infrastructure it provides for the economy through its multi-disciplinarily competences, technological knowledge and multi-sector impact. The European Tooling Platform is officially recognized as a MANUFUTURE’s sub-platform, being a key focal point for research and development at European level, specially for the implementation of HORIZON 2020. Tooling Industry is in the critical path of product development, becoming more and more capital and knowledge intensive. This strategic Industry, acts globally, not only to support “high-end markets” (aeronautic, automotive, medical devices, electronics & communications, packaging, etc), but also, to sustain the production of traditional products in new markets (China, India, Brazil, Mexico, etc), embracing emergent challenges (bio & advanced materials, renewable energy, micro-technologies, etc). Considering all this, the European Tooling Platform is a focal point in Europe, to promote the European Tooling Technological Roadmaps, HORIZON 2020 opportunities and the growth/strengthening of European Tooling Industry, in close action with ISTMA Europe - International Special Tooling and Machining Association.

The Joining Sub-platform - Joining, including traditional welding methods, as a core element to innovative and sustainable manufacturing

Dr. Robert Scudamore, Group Manager - Joining Technologies, TWI

Dr Robert Scudamore as the Joining Sub-Platform Secretariat will refresh the concept of the Joining Sub-Platform and will provide an update on its activities to-date. The importance of joining and its traditional welding counterpart within the manufacturing framework will be highlighted. The value added by manufacture and application of Joining technology in Europe amounted to around EUR 65 billion in 2010. Over 1.25 million employees were connected with this added-value within Europe in 2010” (Moos 2013). Because joining is recognised as a key enabler, and a core element of innovative and sustainable manufacturing, sufficient attention towards its future development across Europe is required. For this, the Joining Community is raising the awareness of its research priorities and its subsequent exploitation potential. The aim is to achieve a competitive, innovative and sustainable competence in the field of Joining that utilises advanced techniques and products, adds value, and generates economic growth and skilled jobs for the benefit of EU stakeholders.

Towards the Food Factory of the Future - needs for manufacturing solutions and necessary infrastructure

Attila Berczeti, Deputy General Manager, Campden BRI Magyarország Nonprofit Kft.

The FoodManufacture project is aimed to provide a vision and a conceptual design for a trans-disciplinary research infrastructure for food manufacturing. The consortium is based on wide-spread networks of public and private stakeholders from the ETPs Food for Life and MANUFUTURE. FoodManufacture provides a structured, pan-European dialogue with relevant stakeholders of the food sector and the manufacturing solutions sector to obtain their visions, challenges, opportunities and needs. The needs and the available envisaged solution of manufacturing sector were identified for research infrastructures including facilities, resources, services necessary to serve the current and future needs of the European food industry, and also include their obstacles, difficulties of the adaptation, practical application and analyses, how can knowledge transfer be carried out and enhanced. Main goals are therefore to explore new opportunities for the food processing sector through application of new, advanced manufacturing solutions, to search potential applications, to enhance the cooperation and exploitation, and to identify the necessary enabling RIs. During the project numerous long and short-term research needs and more than 30 available and envisaged solutions representing both the food processing and the manufacturing sectors were identified. The missing elements of RI were also identified and screened for necessity and feasibility.

Workshop 2.5 – Future-Oriented Activities: Mutual Benefits towards Grand Challenges

Chair: Dr. Augusta Maria Paci, Technologist Director of Chemical Science and Materials Technology Department, National Research Council of Italy (CNR)

The workshop presents key outcomes from studies in Future-oriented activities on visions and scenarios for future EU economic development and sustainability. These studies address Grand Challenges for a sustainable re-industrialization of Europe – driven by agents of change such as science, technology, environment, policy and society.

The invited speakers will offer a synthetic view on some aspects regarding future scenarios – elaborated in 2013 – that contribute to the collective development of a “big picture” for the future of the Manufacturing sector with related policy measures.

Foresight initiatives are underway at multilevel by international organisations, by the European Commission, by organizations of Member States, involving academia and the private sector.

In Italy, the CNR S/T Foresight Project has been launched in 2013 and is carried by researchers through a participatory process for stimulating a collective intelligence. Science and technology with interdisciplinary approach are core part of foresight studies but they also need to include the consideration of the impact on society, on the climate and on the manufacturing sectors – which are the major industrial driving force of the global EU economy.

In the undergoing transformation and paradigm shifts in the next two decades, the outcomes of these and of other future studies may complement the efforts of the Manufuture Technology Platform - that ensured a decade of participatory future thinking for the development of manufacturing related research.

Industrial Landscape Vision 2025 for Early Standardization

Dr. Fabiana Scapolio and Peter Churchill, European Commission - Joint Research Centre

The presentation will focus on the outcomes of a recent foresight addressing the framing question: “How will standards facilitate new production systems in the context of EU innovation and competitiveness in 2025?”

The foresight study developed detailed vision, narrative and conceptual model of the future industrial landscape in 2025 based on the analysis of the importance and the potential impact of the societal, technological, economic, environmental and policy drivers on industry, and then use this Industrial Landscape Vision (ILV) as a basis to analyse the needs for new standards and for evolution of the European Standardisation System.

The ILV 2025 takes a holistic view in understanding the complexity of the industrial system, its inter-linkages and reactions. It also introduces a paradigm shift from the traditional sector-based description of the industrial system to a more function-based representation.

The JRC foresight study on the future of standardisation aims at contributing to identify where and how standardisation could foster the innovation needed to stimulate manufacturing, create sustainable and inclusive growth and jobs in the European Union as well as reinforce its competitiveness in a period of ever-increasing global competition.
The Nexus between Energy, Environment and Transports Services

Dr. Andrea Ricci, Vice President, Institute of Studies for the Integration of Systems (ISIS)

Technological innovation directly affects the dynamics of the manufacturing sector. In the long term perspective, however, it is increasingly recognized that innovation must be sought beyond the traditional sectoral frameworks, and include changes other than technological (institutional, organizational, social). The relationships between landuse, energy, transport and environment, and their impact on the economy are a matter of concern, both in terms of co-benefits (e.g. travel avoidance with subsequent energy savings and environmental benefits) and of synergies leading to system redesign and optimization (e.g. electromobility and smart buildings). To make the most of such opportunities, new socio-economic paradigms must be recognized and facilitated. The PASHMINA project (EU-SSH FP7) has analysed a set of possible paradigm shifts at 2050, notably addressing the need to depart from the current prevailing model based on speed (of transport, of production and consumption, of relations) and individual focus. While the awareness of resource scarcity is a major driver towards virtuous shifts, one should be careful not to embrace approaches that amount to relying solely on technology and efficiency to fix the traditional, purely growth-based paradigm. The presentation will highlight some of the PASHMINA results and their policy implications, including examples of system innovation linking energy, transport and environment.

Measures to Realize Sustainability in Manufacturing

Dr. Mikko Vennari Kaho, Senior scientist, VTT Technical Research Centre of Finland

Sustainable development and sustainable production are important objectives for manufacturing industry. From manufacturing companies' perspective, sustainability can be defined as creation of goods and services that fulfill the basic needs of consumers in a way that minimizes the burden to environment, is economically viable, and is safe and rewarding to employees and society. Although these issues and objectives have received significant emphasis and attention, realizing them poses a grand challenge to manufacturing companies. Hence, research and development efforts that support manufacturing industry in meeting these objectives are urgently needed.

This presentation provides an overview of sustainable development and its key components, and then focuses on the perspective of manufacturing industry and sustainable production. Based on recent and on-going research projects, barriers or challenges of sustainable production are presented. Then, ways and means to overcome these challenges, i.e., enablers of sustainable production are discussed, and relevant and planned research activities that are intended to pave the way towards sustainability in manufacturing are outlined.

Key Message for the Future of Manufacturing Research

Prof. Francesco Jovane, Emeritus Professor, Politecnico di Milano

The 2000 Lisbon strategy required the continuing presence of a strong and competitive manufacturing, as an economy based on service industries alone would not survive in the longer term. To this end, in the European Commission, promoted the Manufacture ETP, to contribute to a competitive and sustainable future of European Manufacturing Industry, within a globalizing world.

The EU 2020 St rat egy has set out a vision to help to come out stronger from the crisis and turn the EU into future of European Manufacturing Industry, within a globalizing world. The EU 2020 Strategy has set out a vision to help to come out stronger from the crisis and turn the EU into a smart, sustainable and inclusive economy. This should be translated into National, EU and International targets and trajectories.

Within Horizon 2020, Manufacture is required to contribute to ensuring high impact of EU Manufacturing Research in Industrial Leadership and providing HAV solutions – Products and Services, Processes and Business Models – to Grand Challenges. Manufacture will play three fundamental functions: strategy, mobilizing and dissemination.

Manufacture "past and future", encompassing from well known achievements to strategic activities already being launched, brings two strong messages. As it has already been done and tested, Manufacturing Research should be seen as a relevant activity, but within the Building Blocks structured Area, proposed by Manufacture : the European Manufacturing Innovation and Research Area (EMIRA).

Within this, the cycle encompassing from Vision, to Strategic Research Agenda, all the way down to the Valorization Stage, should be as short as possible, and be reiterated every three to five years. This is dramatically important to support European Manufacturing Industry.

Workshop 2.6

Service-oriented Architecture as an Integrative Backbone for Cyber Physical Systems

Chair: Dr. Rolf Riemschneider, Research Programme Officer, European Commission, DG for Communications Networks, Content & Technology

HORIZON 2020 brings several challenges to the domain of automation systems and factory applications. It is nowadays widely recognized that networked embedded control systems are an enabling form, the basis for the development of many innovative products and services in a multitude of industrial domains that support the core of European industry excellence and leadership. Several EU-funded FP7 projects have undertaken the challenge to tackle manufacturing aspects towards realizing the next generation of Service-oriented architectures (SOA) and future ICT-driven automation solutions in order to bring to the factory level the latest developments in the field of ICT solutions, including the deployment of SOAs using international (and many times open) standards (many times belonging to the W3C) such as DUPS, OPC-UA etc.

Additionally ARTeMS has developed a vision and strategy to address the ever growing challenges in this embedded systems area, particularly the ubiquity of data enables by M2M communications and Internet of Things, that goes far beyond the scale and capability of today’s systems. The complexity of manufacturing systems will significantly increase: through the proliferation of sensor data, and richness of functions and services when linking physical systems to computing systems and back-end data bases. The design of these cyber physical systems must cope with the need to manage functional complexity and an increasing data volume together with real-time, reliability and sustainability constraints. Industry competition will be based on the ability to realize and validate next generation production systems and new functionalities and value-added services that evolve from recent progress in SOA-based automation: these systems then are linked in to all kind of collaborative networks (including Internet) across supply chains and processes, such as the utilization of private and public clouds, where the ratio of technology/Time to Market to Technology Time on Market is increasingly challenging.

The proposed session will present key results coming from a multitude of European projects, a vision on where we are heading and its impact, as well as key challenges and roadmaps for the future collaborative industrial systems and the domains they affect.

Service-oriented Architecture: A world-wide adopted ICT-Paradigm towards Industrial Implementations of Cyber Physical Systems

Prof. Armando Walter Colombo, Research Program Manager at Schneider Electric Automation GmbH and Director of Institute for Industrial Informatics, Automation and Robotics, University of Applied Sciences Emmen-Leer

The future “Perfect Agile Factory” will enable monitoring, processing and control information flow in a cross-layer way. As such the different systems composing the whole enterprise will be part of a distributed ecosystem, where components, hardware and software, can dynamically be discovered, added or removed, and dynamically exchange information and collaborate. This cross-layer, intraenterprise collaborative infrastructure will be driven by business needs exposed and managed as individual and/or composed services by the system’s components.

In the presentation, an overview of key challenges appearing across the enterprise architecture will be addressed, such as structural, operational and managerial independence of the shop floor and enterprise constituent systems, interoperability, plug and play, self-adaptation, reliability, energy-awareness, high-level cross-layer integration and cooperation, event-propagation and -management, among others. The major characteristics and results of first industrial prototype implementations will be presented, describing the application of the Service-oriented Paradigm (SoA) to virtualise a shop floor and allow it to expose its capabilities and functionalities as “services” located in a “Service Cloud”.

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Looking at latest reported Research-Development-Innovation-Results, two major trends and key enabling technologies and paradigms will be overviewed and the major characteristics of their potential use in industrial shop floors will be highlighted: “Cyber-Physical Systems” and the fusion between “Service-oriented Architecture and Cloud Computing.”

**Implementing SoA in Industrial Cases: The SME Viewpoint**

Otto Karhumaki, Technology Director of FluidHouse Oy

Adopting a Service-oriented Architecture (SoA) design approach in Industrial Automation Systems allows SMEs providers to enhance their business offering. In order to create new business opportunities, SMEs recognise the need to differentiate themselves by adopting a high-risk technology driven element such as SoA in Automation. Thanks to the current maturity of SoA design concepts, confidence among SMEs is becoming high. SoA approach deployed via Web Services is based on open standards and has been tried and tested in many different domains providing a cover for the technological adoption among SMEs. This talk will provide some examples on how an SME like FluidHouse did develop and implement SoA-based monitor and control systems for their clients. It will stress the option for a stepwise approach to the implementations and also the main driven force of creating parallel solutions to the existing control systems, such as monitor and other applications.

**Cyber-Physical-Systems in the Cloud Era**

Stamatis Karnouskos, Research Expert, SAP

Future factories are expected to be complex System of Systems (SoS) that will empower a new generation of today hardly realizable, or too costly to do so, applications and services. New sophisticated enterprise-wide monitoring and control approaches will be possible due to the prevalence of Cyber-Physical Systems (CPS), which have made Machine-to-Machine (M2M) interactions a key competitive advantage and market differentiator. This will be possible due to several disruptive advances, as well as the cross-domain fertilization of concepts and the amalgamation of IT-driven approaches in the traditional industrial automation systems. The Factory of the Future (FoF) will rely on a large ecosystem of systems where collaboration at large scale will take place. Additionally with the emergence of Cloud Computing, it is expected that Cyber-Physical Systems will harness its benefits, such as resource-flexibility, scalability, etc. and not only enhance their own functionality but also enable much wider consumption of their own data and services. The result will be a highly dynamic flat information-driven infrastructure that will empower the rapid development of better and more efficient next generation industrial applications while in parallel satisfying the agility required by modern enterprises.

**The Factory InfoStore: Using SoA to Easily Create Factory Applications**

Prof. Lastra, Jose L. Martinez, Professor at Tampere University of Technology

The Service-oriented Architecture (SoA) design concept is an evolution of previous approaches to warp and encapsulate data processing while the how and where the data is processed become transparent for the service consumer. The main advantages of SoA with respect to previous efforts reside on the well-established set of XML-based open standards for defining concepts such as: the description of the service, the communication among the services, and the discovering and connection between the services. The automation of production systems is becoming a software-intensive task, and therefore, is facing even more integration issues to those already identified in the early 80s and 90s. It is expected than the deployment of SoA via different approaches such as DPHIS (Device Profile for Web Services) or OPC-UA (OPC-Uniformed Architecture) at the Factory Floor will relax these integration tasks. This talk will provide the views on how to capitalize Information Infrastructures deployed as SoA by creating a Factory InfoStore, which in a way reassembles the concepts of the Stores for Applications of the consumer electronics business. It will stress the possibilities for introducing new actors for the production automation business, and also the potential utilization of the concept by SMEs.

**PLANTCockpit – a Service-oriented System for Enhancing Productivity in Manufacturing**

Prof. Martin Wollschläger, Chair of Industrial Communications, Director of the Institute of Applied Computer Science, Faculty of Computer Science of TU Dresden

Service-oriented approaches are increasingly implemented in manufacturing systems. They are used in various levels of the manufacturing systems’ structure, ranging from sensor and actuator level up to MES and ERP. Within the EU FP7 project PLANTCockpit, this approach enables to extract manufacturing data from all these levels and to flexibly compute and combine them in order to generate and visualize aggregated data. This data are Key Performance Indicators (KPIs) that are used for enhancing production visibility, for energy management and sustainable manufacturing.

**ARTEMIS SRA**

Laia Gide, Advanced Studies Europe Director, THALES

Embedded Systems technology (ES) is recognised crucial key enabling technology for the development of innovative products and service, consolidating Europe’s economical growth, jobs creation and competitiveness on international market.

ARTEMIS is a unique programme succeeding in few years to build self-sustaining eco-systems and set ES largest R&D projects for safety- critical, high reliability systems for multi-domain compatibility and interoperability.

Cyber-Physical Systems are entering a new era serving societal and economical challenges. ARTEMIS targets focus its R&D on exploiting the ubiquity of the CPS, the neural system linking physical world and sharing networks, optimising the Technology Time to Market/Technology Time on Market, mastering complexity, reducing cost and power consumption, and increasing performance.

Its Research Roadmap will deliver technologies needed for Application Contexts, as: Efficient and Safe Mobility (automotive, aeronautics, railway, space), Wellbeing and health (Care everywhere), Sustainable Production (process automation, manufacturing, power plants/ energy conversion), Smart Communities (smart-safe cities, energy efficient building). The road-maps derived from these applications needs covers:

A- Architectures Principles and models for Safe and secure CPS
B- System Design, modelling and virtual engineering for CPD
C- Autonomous adaptive and cooperative of CPS
D- Computing Platforms and Energy Management for CPS.

**The ARTEMIS Innovation Pilot Project for Production and Energy Systems Automation**

Prof. Jerker Delsing, Professor at Luleå University of Technology, Coordinator of the Arrowhead project

Automation will in the future be built on services provided by systems and things all of the being networked. This puts high requirements on simple and seamless interoperability of services form different systems and things provided by any company. Arrowhead is addressing service interoperability by defining the Arrowhead service technology framework which will be proven in real application pilots in five technology domains, production, smart cities, electromobility, energy production and usage and the virtual market of energy. The service framework will provide core services for information infrastructure, system management and information assurance. Utilising the framework applications like railway train wide monitoring systems can be created supporting easy information tailoring to involved stakeholders.
Plenary Session P4
11:10 – 13:10 HORIZON 2020 and Regional Dimension

Although research is global, excellent research activity cannot be sustained if it is isolated from the local environment and economy for long. On the contrary - it relies on being properly embedded with regional and national structures and networks, and its economic and social value to the country and region will only be realised if it can become part of the region's innovation system. The new strategy of smart specialisation is the EC's proposal to increase public funding for research and innovation projects and activities developed at a regional level, and to promote better alignment and coordination between European and national/regional policies and funding programmes. Its goal is to boost regional innovation by enabling regions to focus on their strengths, and thereby induce economic growth and prosperity.

Chair: Prof. Edward Chlebus, Dean of Mechanical Engineering Faculty, Wrocław University of Technology

Lithuania's Perspective on R&D and Innovation for the upcoming 2014-2020

Prof. Dainius Pavalkis, Minister of Education and Science, Republic of Lithuania

The focus of presentation is Lithuanian way to the mature correlation between the EU, regional and national demands with the country's R&D and innovation as well as business potential and society's challenges in general. Investments in R&D and innovation are crucial, but the decision which subject deserves more attention to be given to have most effective result is sometimes not popular at all. Lithuania's society is in the mid-way of drawing the framework for prioritising its R&D and innovation investments. But the road for searching the consensus between academia, industry and decision-makers is still ahead, including, certainly, the most important part of the process – the present and upcoming decisions and the expected outcomes for the year 2020. Simultaneously, looking for partnerships in the region, on the EU level and globally makes the picture even more complex, but challenging.

Regional Policy and Smart Specialisation

Normunds Popens, Deputy Director General for Implementation, European Commission, DG for Regional and Urban Policy

The regional dimension is key to Europe's growth agenda and to tackle the re-industrialisation challenges of Europe. That's why EU Regional Policy has focused on innovation and smart specialisation. Smart specialisation aims at helping regions to fully tap their innovation potential and focus SF investments on economic transformation and micro-economic competitiveness, including business support. Smart specialisation fosters industrial renewal by upgrading manufacturing and helping to translate scientific leadership into industrial advantages. It promotes synergies between the relevant European funding instruments such as Horizon 2020 and the Structural Funds. And smart specialisation also offers important opportunities for roadmap alignment and the identification of co-investment opportunities, including with European-level PPPs, such as the Technology Platforms.

National Platforms: Contribution to Smart Specialisation

João Carlos Caldeira, Director of INESC Porto/ PRODUTECH Cluster

Since the beginning of MANUFACTURE ETP (INFETP), the regional dimension was considered crucial to achieve its objectives and impact, namely the engagement of actors and mobilization of resources. Since 2004 the ETP built a network of national and regional platforms (NRTP), gathering currently 28 platforms and involving 2,000 direct members. While policy-making can be done at European level, implementation always happens at national and regional level, the companies and businesses are embedded in the national / regional environment.

This network of NRTPs is truly an implementation army, capable of supporting the design and implementation of policies, programmes and initiatives, at national or regional level, complementing and aligned with the EU framework to cover the entire innovation cycle. The work already done and the lessons learned will be presented, paving the way for the new challenges that need to be tackled, namely the definition of specialization areas and the mobilization of funding resources, at national and regional level, both public and private (including structural funds, under RIS3), and some related initiatives.

View on Smart Specialisation: Baltic Manufacturing Belt

Prof. Reijo Tuokko, Professor at Tampere University of Technology, Department of Production Engineering

Smart Specialisation was launched by EC in 2011 as a strategic approach to economic development through targeted support to Research and Innovation (R&I). It will be the basis for Structural Fund investments in R&I as part of the future Cohesion Policy's contribution to the Europe 2020 jobs and growth agenda. Smart Specialisation helps the regions to assess their specific R&I strengths and weaknesses and build on their competitive advantage.

The presentation will give one view to a macro-regional Smart Specialisation by introducing the Baltic Sea Region (BSR) Manufacturing Belt initiative. The Baltic Sea Region involves 9 countries, 8 of them having national MANUFACTURE platforms. The BSR Manufacturing Belt is targeting in promoting research and innovation strategies for smart specialization, raising scientific and technological excellence and strengthening competitiveness and innovation in manufacturing. It is a tool all over the Baltic Sea Region countries and attracting more private investments for research and innovation in the region. BSR includes countries both on the top and in the bottom in innovation performance. This would give the region a perfect situation for knowledge and technology transfer and for building a Staircase to Excellence also in less advanced countries. Manufacturing industry is a significant employer in the region, and the success of the branch has a great social influence.

Participation of the Central Eastern European Countries in the FP7 Collaborative R&D Projects for Manufacturing

Dr. Linas Eriksenas, Partner, UAB "Europamark"a

The participation of CEE countries in the calls launched under the Public Private Partnership "Factories of the Future" (FoF) initiative for the manufacturing sector has been very meagre. Only 2-5% of the budget went to the participants from CEEC in the winning consortia, despite the fact that CEEC has the largest workforce in the manufacturing sector in Europe and is in need of maintaining those jobs by increasing productivity rates through research and innovation activities. Two conclusions were drawn to the public, as an explanation of the low-level participation in FP7 collaborative R&D consortia. Firstly, it was argued that the participation pattern largely mirrors the overall capacity of economy in individual countries and sectors and it was further suggested that the low participation shows the lack of interest in industrial R&D by the manufacturing industry in CEEC. Secondly, it was argued that no overall explanation for the whole CEE could be found as each country has a different R&D and innovation system which shapes the conditions for participation. No attempt has been made to-date to explain the participation from the perspective of a company. In order to understand the barriers which make it difficult for CEEC partners to participate in FoF and manufacturing-related collaborative R&D projects the presentation will present the value chain analysis of the successful participants and explain the R&D roles played in economic networks.

EIB Funding Possibilities in HORIZON 2020

Laura Piovesan, Head of Innovative Industries Division - Projects Directorate, European Investment Bank

With a total lending volume of more than 14.4bn, the Risk Sharing Finance Facility (RSFF) represents the Bank and European Commission’s most successful Joint Financial Instrument (JFI) to date. Launched in 2007
was set up by the European Investment Bank (EIB) and financially supported by the EU, in order to foster additional investment in RDI (Research, Development & Innovation) in the EU and the Seventh Framework Programme’s (FP7) Associated Countries (AC), as well as to address the market’s failure in allocating sufficient resources to RDI. RSFF also includes the Risk Sharing Instrument (RSI), a guarantee instrument handled by the EIF under mandate from EIB, targeting innovative SMEs and small Mid-Caps. Overall the programme has fostered more than EUR 40bn of new RDI investments in Europe. Based on this success, the Commission and the EIB are working together closely on blended risk-sharing instruments leveraging the EU budget with the EIB lending capacity. The new financial instrument being developed under H2020 will cover a broad range of products targeting SMEs (via Venture Capital/Equity and Guarantees/Counter-Guarantees), as well as Mid-Caps and Larger Entities including Research Infrastructures via EIB investment loans. Like the current RSFE, the new products will target RDI investments promoted mainly by sub-investment grade promoters, with a strong focus on developing European industrial capabilities in Key Enabling Technologies.

Plenary Session P5
14:00 – 16:00 HORIZON 2020 and International Dimension

International cooperation in research and innovation will be a crucial part of Horizon 2020, which will serve as a means to achieve higher level EU objectives. This will require joint action and long-term cooperation between both EU countries and those outside their borders. The core principles of the EU's International Strategy for Research and Innovation will be:

» Ensuring a strengthened implementation, governance, monitoring and evaluation.
» Developing a stronger role for Union in international organisations and multilateral collaboration
» Setting common principles for conduct of international cooperations
» Tackling global societal challenges such as climate change, sustainable agriculture and clean energy
» Establishing a stronger partnership with Member States

Chair: Herbert von Bose, Director of Directorate G – Industrial Technologies, European Commission, DG for Research & Innovation

Research Opportunities and International Collaboration through IMS
Dan Nagy, Managing Director of Intelligent Manufacturing Systems

IMS International (www.ims.org) is a government supported multi-lateral program for advanced manufacturing R&D Institutions from supporting member countries may initiate or join projects with the help of complimentary project development coaching staff. IMS sponsors project and networking workshops. The session will give highlights of IMS activities, project portfolio, and planning for a large upcoming research workshop.

Collaboration in Manufacturing through Collaboration in Innovation
Prof. Semen L. Musher, Managing Director, Russian Foundation for Technological Development

Transformation of a Consumer Electronic Business in Response to Global Competition
Dr. Brian Li, Managing Director, GP Industries Limited

Consumer electronic business can be considered as one of industry sectors that has been most impacted by globalization. In the 1980s, Hong Kong electronic manufacturers leveraged on the low cost base in China and substantially grew their businesses several fold within a few years and contributed to China's development into one of key producers of electronics products for the World. In recent years, the Chinese government started to develop and enforce compliance of labor laws and environmental health & safety. Visible improvement in working condition and environmental protection has been made, rapidly escalating costs forced companies to make drastic transformation in order to sustain domestic and foreign competition. Despite their first mover advantage, most Hong Kong consumer electronic manufacturers remained in the contract manufacturing business without changing their business models. In the 1990s, local and international competitors became established in China. Most Hong Kong manufacturers were then pushed into severe business challenges by saturating markets and razor thin margins. Only a small handful of Hong Kong consumer electronic manufacturers evolved to move up the value chain and developed their own global brands and their own global sales network. This presentation is based on a case study conducted by the presenter which analyzed the development of one of the few Hong Kong electronics manufacturers, GP Electronics (HK) Limited, which started as a small contract manufacturer in 1978 and grew to a global company with its own brands, its own products and its own sales network. GPE's global expansion started in 1992 with its acquisition of two premium UK loudspeaker brands, KEF and Celestion, and their subsequent integration into GPE's core businesses. After the acquisitions, GPE set up concurrent technology and product development centers in the UK, Hong Kong and China, worked with Universities to access latest technologies, established product manufacturing in the UK, Europe and China, established a dedicated component and technology sourcing center, adopted Japanese manufacturing best practices and set up sales offices in key global markets. The implementation of these strategies transformed the company from a local subcontractor to a global supplier of premium branded products with significant share in the market segments it operates in and won the company international prizes and awards. Using a theoretical lens based on western economic and business theories on firm globalization, the inquiry studied the effectiveness of the acquisition and growth strategies that the company adopted. The inquiry also identified a number of important contributors vital for the global expansion of electronic manufacturers from developing countries, such as those from Hong Kong, if they should contemplate business globalization as development strategy. Using the same theoretical lens, this presentation further analyzed how much the competitive landscape in China changed in the last few years and attempted to identify the key factors that will contribute to the success of Hong Kong's electronic manufacturers in future.

How to Attract on a Global Scale Young Talents to Manufacturing
Prof. Marco Tasch, Professor of Advanced Manufacturing Systems, Politecnico di Milano

One of the main problem manufacturing companies are facing now is the recruitment of the proper workforce. In the report "The Future of Manufacturing" published in April 2012 by the World Economic Forum, the "talent-driven innovation" has been recognised by CEO the top priorities for the competitiveness of the companies, even more important than the cost of labour, material and energy. Said that, when asking young talents, their understanding of what manufacturing of the future is far from the truth, being still considered a non-attractive environment and a not promising job. But as we know this is not the truth. In fact, with the shrinking of distances to create the global village coupled with the ever faster pace of advances in technology and process innovation, one can state clearly that manufacturing is in a state of constant innovation. The factory of the industrial revolution, where the shopfloor was neither safe nor clean, is being replaced by factories where lean and TPM have dramatically changed the work environment. A fundamental switch has taken place, where in the beginning the workers were workers carry out repetitious tasks, now the focus is on cognitive interaction with the work environment through ICT. The speech aims at exploring how young talents could be attracted and which role the policy makers and the companies at global level should have in order to guarantee this fundamental resource to Manufacturing.
Manufacturing Industry is the foundation of national and international economies. It accounts for approximately 16% of global GDP and 14% of employment. It is critically important to both developing and developed countries.

Current globalization – enabled by manufacturing and affecting it – has brought many advantages to new developing countries, but also created many large-scale problems in developed countries. By 2025 the majority of production and consumption will take place in developing economies. Meanwhile, in established markets, product demand will be almost steady, but highly differentiated.

A new global equilibrium must be pursued. A new paradigm - Competitive Sustainable Globalization – could guide such process. It relies on two complementary components, interacting within global value chains:

» Competitive Sustainable Global Manufacturing, constituted of global manufacturing industries with factories located in countries with competitive advantage (tax, labor cost, etc.)

» Competitive Sustainable Local Manufacturing, focusing on establishing local manufacturing competitive and sustainable industries.

To respond to grand economic, social, environmental challenges, within a globalising world perspective, developed countries foster re-industrialization, by investing in local manufacturing, within a global perspective.

European Union is promoting and supporting such process. The European Initiative fostering regional Smart Specialization Strategies, referring to Competitive Sustainable Development, could provide the right political and financial environment to promote and support Competitive Sustainable Local Manufacturing. Industry and Research Institutions could play a revolutionary role, as fostered by Manufuture.
**Arun Junai, Annamalai**

**ORGANISATION:** TNO Industrial Innovation  
**POSITION IN THE ORGANISATION:** EU Manager  
**BIOGRAPHY NOTE:** Bachelor of Engineering: Metallurgy-1971, Masters: Nuclear Metallurgy-1972  
**Overview of Experience:**  
- Setting up and Executing EU Research Projects under Framework Program (FP) from 1987, FP2 onwards  
- Setting up and Executing National Research Projects from 1987  
- Coordinator of Manufuture European Technology Platform (ETP) with sub-platforms and other related ETPs  
- Established good network within European Commission and European Associations  
- Co-operation with Big companies, Small and Medium scale Enterprises (SMEs), Universities and Research Institutes in Europe  
**Employment:**  
- EU Manager, TNO Industrial Innovation - From 2011  
- Coordinator, EU Research Programs, TNO Science and Industry – 2005-2010  
- Head of Department, Fabrication Technology-TNO Industry-1994-1997  
- Dy. Head of Inspection Department, Toyo Engineering -1982 –1987  
- Groups Leader, Joining Technology, Bhabha Atomic Research Centre-1978-1981  
- Scientific Officer, Welding Technology, Bhabha Atomic Research Centre-1972-1977  

**Berzceli, Attila**

**ORGANISATION:** Campden BRI Magyarország Nonprofit Kft.  
**POSITION IN THE ORGANISATION:** Deputy General Manager  
**BIOGRAPHY NOTE:** Graduated in the Mechanical Engineering Faculty of the Technical University Budapest in 1991 specialising in food and chemical industry. Worked as development engineer at R+D Institute for the Frozen Food Industry. Practical experience in food safety, food hygiene.  
Attila Berzceli as Deputy general manager of Campden BRI Hungary has 22 year experience in food technology, hygienic design of factories, food technology and troubleshooting, technical development, technology and knowledge transfer, cost reduction and production efficiency, transparency, food safety, hygiene and quality assessment methods and traceability at factory level at several branches of the food industry. Registered BRC and IFS auditor. Editor of 23 different sector specific Good Hygiene Practice Guidelines. Team member of the working parties developing 12 sector specific Good Hygiene Practice Code in Hungary in cooperation with the Hungarian Federation of Food and Drink Industry, many of them within the former BSP programme with the CIAA. Author of several other books, sections of books, university textbooks on food safety and hygiene in Hungarian.  
He is participated and currently participating in several EU FP project. Managed the national working group in MSFOOD EU funded project (2009-2011 - developed practically applicable efficiency increasing and cost reduction techniques) and participating in the currently running FOODMANUFUTURE FP7 project.  

**PRESENTATION:**  
W2.4 – “Towards the Food Factory of the Future - needs for manufacturing solutions and necessary infrastructure”
**Bonomi, Sandro**

**ORGANISATION:** Orgalime  
**POSITION IN THE ORGANISATION:** President

**BIOGRAPHY NOTE:** University Degree: Business Economy. Studies and courses made in U.K., Germany and Spain.  
Spoken languages: English, French, German, Spanish.  
Previous appointments held:  
- Chairman of AHG (ad hoc group) for the CEN standards for gas ball valves - from 1998 to 2000  
- Member of the “Anti-Counterfeiting Task Force” ORGALIME - Brussels from 2001 to 2005  
- President of CEIR (Comité Européen Industrie Robinetterie) - Brussels from 2005 to 2007  
- President of AVR - ANIMA (Valves Manufacturers Association) from 2001 to 2007  
- Council and Executive Board member of ANIMA from 2001 to 2007  
- Co-founder of the Ruvaris Consortium for R & D in 1998 and Council member until 2006  

**Present appointments:**  
- President of Orgalime  
- President of the Company - Enolgas Bonorni S.p.a. (Valves) and of all companies under its control  
- President of ANIMA (Federation of the Italian Associations of Mechanical and Engineering Industries) since 2008  
- Chairman of the Brescia Export Consortium since 1995  
- Vice President of the Ruvars Consortium for R & D since 2006  
- Board member, as Past President, of the CEIR (Comité Européen Industrie Robinetterie) Brussels since 2007  
- Vice President of UNI (Italian Organization for Standardization)  
- Member of the Board of Cofindustria  

**PRESENTATION:**  
P1 – “How to Ensure the Shift from R&D to Innovation”

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**Bueno, Ricarabo – Dr.**

**ORGANISATION:** TECNALIA  
**POSITION IN THE ORGANISATION:** Director for the Programmes Area

**BIOGRAPHY NOTE:** Dr Ricardo Bueno is the Director for the Research Programmes Area in Tecnalia. He got a degree in mechanical engineering and a PhD in engineering.  
He has been active since 1989 in European research projects, mainly in the fields of manufacturing and industrial systems, where he coordinated the integrated project NEXT – (next Generation production Systems), a big research initiative for the machine-tool sector.  
He has been working for Patronik, a private research organization, for twenty-one years, until its merger in TECNALIA to create the biggest RTO in Spain. His responsibilities went from researcher, head of the mechanical engineering department and responsible for the scientific policy to directing the research programmes area, first in Patronik and currently at Tecnalia. He is active in Manufuture and participated actively in the setting up of the Factories of the Future research PPP initiative where he is member of the EFFRA Board of Directors and co-chairs the Ad-hoc advisory group.

**PRESENTATION:**  
Chair of W1.5 – “Manufacturing: the Enabler for the Integration of Technologies”

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**von Bose, Herbert**

**ORGANISATION:** European Commission, DG for Research & Innovation  
**POSITION IN THE ORGANISATION:** Director of Directorate G – Industrial Technologies

**BIOGRAPHY NOTE:** Mr von Bose completed his studies in law from the Universities of Bonn, Geneva and Heidelberg in 1975. He was an assistant at the law faculty of the University of Montpellier before joining the German Ministry of Justice in 1976. From 1979 to 1983, he practiced as a lawyer in Manheim and Heidelberg. In 1983, he started working for the European Commission in Brussels. In 1996, Mr von Bose became the Head of Unit for Aeronautics, Space, Rail and Maritime. From 2004 to 2007, he was the Head of Unit for “Security Research and Development”. In September 2007, he became Director for “Industrial Technologies” in DG Research & Innovation.

**PRESENTATIONS:**  
P1 – “HORIZON 2020: Research and Innovation in Europe”  
Chair of P5 – “HORIZON 2020 and International Dimension”

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**Caldeira, José Carlos**

**ORGANISATION:** INESC Porto / PRODUTECH Cluster  
**POSITION IN THE ORGANISATION:** Director

**BIOGRAPHY NOTE:** José Carlos Caldeira is presently director of INESC Porto, one of the main ICT research and technology transfer institutes in Portugal. He is also member of the MANUFUTURE High Level Group and Chairman of its National and Regional Technology Platforms Group (representing the Portuguese national initiative - FÓRUM MANUFUTURE Portugal). More recently, he became executive director of PRODUTECH, a cluster of more than 80 organizations targeting the development of production technologies for the manufacturing industry and Board member of EFFRA – European Factories of the Future Research Association (as observer). Since 2006, he is Board member of ISPIM – International Society for Professional Innovation Management.

**PRESENTATION:**  
P4 – “National Platforms: Contribution to Smart Specialisation”
Carpanzano, Emanuele – Dr.

ORGANISATION: Footwear European Technology Platform
POSITION IN THE ORGANISATION: Chairman

BIOGRAPHY NOTE: Emanuele Carpanzano is Chairman of the Footwear European Technology Platform, member of the High Level Group of the Manufacture ETP and member of EFFRA, he is also managing the Eureka Cluster Manufacture Industry Office and coordinating the IMS MTP initiative "Your Goods". He is acting as Director of the Research Institute of Systems and Technologies for Sustainable Production at the University of Applied Sciences and Arts of Southern Switzerland and he is President of Synesia, a public private Consortium dedicated to technology development and transfer. He managed numerous research and industrial projects and is author of more than 100 scientific papers and of various industrial patents.

Chlebus, Edward – Prof.

ORGANISATION: Wroclaw University of Technology
POSITION IN THE ORGANISATION: Dean of Mechanical Engineering Faculty

BIOGRAPHY NOTE: Prof. D.Sc. Eng. Edward Chlebus – Dean of Mechanical Engineering Faculty at Wroclaw University of Technology – Poland, Head of Centre for Advanced Manufacturing Technologies CAMT and Fraunhofer Project Center, President of Lower Silesia Park for Science and Innovation – DPIP, Representative of Poland in the FP7’s NMP (Nanotechnologies, new Materials and Production technologies).

Main Research areas: design methodology and CAx and PDM/PLM systems, rapid prototyping- rapid tooling- reverse engineering, modeling, optimization and simulation of production processes. Author of: 6 Books, 280 papers, Promotor of 23 finished Ph.D and 14 current dissertations, Contractor of 6 International Projects in FP6, Leonardo da Vinci, ERA Net and many internal projects and industrial applications, Member many Scientific Committees in Journals and Conferences, member of Implementation Support Group of EPT ManuFuture, Coordinator of Polish ManuFuture Technological Platform and Polish ProNet Excellence Network.

Chryssolouris, George – Prof.

ORGANISATION: Laboratory for Manufacturing Systems & Automation (LMS), University of Patras
POSITION IN THE ORGANISATION: LMS Director

BIOGRAPHY NOTE: George Chryssolouris is Professor (1993-) of the Department of Mechanical Engineering and Aeronautics of which he was Chairman between 2003 and 2007. He was, for 2006-2007, the President of CIRP, the Paris based International Academy for Production Engineering.

He is a member of the High Level Group of the European Technology Platform on Manufacturing (ManuFuture). He has been a founding member, Vice Chairman (2009-2013) and Member of the Board of Directors (2013-) of the European Factories of the Future Research Association (EFFRA).

He is the Director of the Laboratory for Manufacturing Systems and Automation (LMS).

Prof. Chryssolouris worked at MIT (Massachusetts Institute of Technology) in the USA between 1980 and 1993. Between 1980 and 1993 he served also as Vice-President, responsible for the US operation, of a German engineering company specialised in industrial automation. He worked (1976-1980) as Research Associate in the Institute of Manufacturing Technology and Machine Tools at the University of Hannover, Germany.

Prof. Chryssolouris has more than 400 publications in international scientific journals and refereed conferences. He is the author of two books published by Springer Verlag.

He holds a US Patent for a laser machine design. He was granted the Frederick W. Taylor Research Medal by SME (2001) for his outstanding contributions to manufacturing research. He was also the recipient of SME’s Young Outstanding Manufacturing Engineer Award (1986).

Churchill, Peter

ORGANISATION: European Commission – Joint Research Centre
POSITION IN THE ORGANISATION: Advisor for Scientific Policy

BIOGRAPHY NOTE: Peter Churchill is by training an environmental scientist who has worked in academia, industry and public service. For the past 25 years he has worked for the European Commission’s Directorate General Joint Research Centre, first as a scientist, and since 1996 as a manager of scientific and administrative Units. He currently works as the Advisor for Scientific Policy at the JRC’s headquarters. His current interests include the research and innovation policy, the future of manufacturing industry, and standardisation.

PRESENTATION: W2.5 - “Industrial Landscape Vision 2025 for Early Standardization”
**Colombo, Armando Walter – Prof.**

**ORGANISATION:** Schneider Electric Automation GmbH & Institute for Industrial Informatics, Automation and Robotics, University of Applied Sciences Emden-Leer  
**POSITION IN THE ORGANISATION:** Research Program Manager / Director  
**BIOGRAPHY NOTE:** Armando Walter Colombo (Prof. Dr.-Ing., S3) is Edison Level 2 Group Senior Expert and Research Program Manager at Schneider Electric. He also joined the Department of Electrotechnic and Industrial Informatics at the University of Applied Sciences Emden-Leer, Germany, and became Full Professor in August 2010. He received the Doctor degree in Engineering from the University of Erlangen-Nuremberg, Germany, in 1998. From 1999 to 2000 was Adjunct Professor in the Group of Robotic Systems and CIM, Faculty of Technical Sciences, New University of Lisbon, Portugal. He has extensive experience in managing multi-cultural research teams in multi-regional projects, participating in leading positions in several international projects like the EU FP6 NoE PROMS (www.proms.org, 2004-2009), the EU FP6 Integrated Project “SOCRADES” (www.socrades.eu, 2006-2009), the EU FP7 IP IMC-AESOP (www.imc-aesop.eu, 2010-2013). Prof. Colombo is listed in Who’s Who in the World /Engineering 99-00/01 and in Outstanding People of the XX Century (Bibliographic Centre Cambridge, UK). Prof. Colombo has more than 200 publications and 22 industrial patent applications (http://scholar.google.com/citations?user=csLRR18AAAAJ). His research interests are in the fields of cyber-physical systems, system-of-systems engineering (SoS), service-oriented architecture (SoA), collaborative automation.

**PRESENTATION:**  
W2.6 – “Service-oriented Architecture: A world-wide adopted ICT-Paradigm towards Industrial Implementations of Cyber Physical Systems”

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**Combüchen, Uwe**

**ORGANISATION:** CEEMET  
**POSITION IN THE ORGANISATION:** Director General  
**BIOGRAPHY NOTE:** Uwe Combüchen, born in 1961, is an attorney at law. He started his career at a law firm in Germany, where he was dealing with civil law and in particular labour law issues. In 1992 he joined CEEMET (Council of European Employers of the Metal, Engineering and Technology-based industries) in Cologne. In 1997 he became Director General of CEEMET. He relocated the CEEMET offices to Brussels in 1999. Since then he continuously established CEEMET’s role as a lobbying organisation in the area of European social, employment and industrial policy issues. This includes playing a leading role in the European Manufacturing Forum at the European Parliament and an increasing number of ad hoc alliances with major European industry organisations. CEEMET’s fields of expertise cover EU social policy initiatives, industrial and employee relations, health & safety issues as well as education and training. Furthermore, he prepared the formalization of the social dialogue between CEEMET and the European Metalworkers Federation that was recognized by the European Commission and is operational since 2010.

**PRESENTATION:**  
P2 – “Reinvent Education with Industry”

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**Delsing, Jerker – Prof.**

**ORGANISATION:** Lulea University of Technology / Arrowhead project  
**POSITION IN THE ORGANISATION:** Professor/ Coordinator  
**BIOGRAPHY NOTE:** Biographical note: Prof. Jerker Delsing received the M.Sc. in Engineering Physics at Lund Institute of Technology, Sweden 1982. In 1988 he received the PhD degree in Electrical Measurement at the Lund University. During 1985 - 1988 he worked part time at Alfa-Laval - SattControl (now ABB) with development of sensors and measurement technology. In 1994 he got the docent degree (associate prof) in Heat and Power Engineering. Early 1995 he was appointed full professor in Industrial Electronics at Lulea University of Technology where he currently is working as the scientific head of EISLAB, http://www.itu.se/eislab. His present research profile can be entitled “Embedded Internet Systems Services”, with applications to automation in large and complex industry and society systems. The general idea is that most sensors and actuator will have communication capability using the Internet and the “TCP/IP” protocol suite and be capable of ah-hoc integration into a communication network. Each device can then provide services to the network/cloud upon which application can be built, thus using SOA to build large automation systems. Prof. Delsing and his EISLAB group has been a partner of several large EU projects in the field, e.g. Socrates and IMC-AESOP. Currently he is the coordinator of the very large ARTEMIS proposal Arrowhead, with 78 partners and a budget of 68M€. At the European level he is steering board member of ARTEMIS, board member of ProceSiTEU. At national (Sweden) level he is board member of ProceSiT Innovations and ESIS.

**PRESENTATION:**  
W2.6 – “The ARTEMIS Innovation Pilot Project for Production and Energy Systems Automation”

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**Eriksonas, Linas – Dr.**

**ORGANISATION:** UAB „Europarama“  
**POSITION IN THE ORGANISATION:** Partner  
**BIOGRAPHY NOTE:** Biography note: Linas ERIKSONAS works as an innovation policy advisor at the Lithuanian Innovation Fund where he was responsible for the European Science Foundation and has done research for the Research Council of Norway. Prior to the consultancy work he worked as a programme coordinator for the European Science Foundation and has done research for the Research Council of Norway.

**PRESENTATION:**  
P4 – “Participation of the Central Eastern European Countries in the FP7 Collaborative R&D Projects for Manufacturing”

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**Combüchen, Uwe**

**ORGANISATION:** CEEMET  
**POSITION IN THE ORGANISATION:** Director General  
**BIOGRAPHY NOTE:** Uwe Combüchen, born in 1961, is an attorney at law. He started his career at a law firm in Germany, where he was dealing with civil law and in particular labour law issues. In 1992 he joined CEEMET (Council of European Employers of the Metal, Engineering and Technology-based industries) in Cologne. In 1997 he became Director General of CEEMET. He relocated the CEEMET offices to Brussels in 1999. Since then he continuously established CEEMET’s role as a lobbying organisation in the area of European social, employment and industrial policy issues. This includes playing a leading role in the European Manufacturing Forum at the European Parliament and an increasing number of ad hoc alliances with major European industry organisations. CEEMET’s fields of expertise cover EU social policy initiatives, industrial and employee relations, health & safety issues as well as education and training. Furthermore, he prepared the formalization of the social dialogue between CEEMET and the European Metalworkers Federation that was recognized by the European Commission and is operational since 2010.

**PRESENTATION:**  
P2 – “Reinvent Education with Industry”
Feenstra, Frits

ORGANISATION: TNO
POSITION IN THE ORGANISATION: Senior project manager

BIOGRAPHY NOTE: Frits Feenstra MSc Senior project manager at TNO. He has successfully led several international plus MEUR projects, member and coordinator of the European Additive Manufacturing platform (www.AM-Platform.com). RTD partner for the NL Topsector HTSM Printing roadmap team, partner in the Dutch High Tech Top project Printvalley, member of the ISO/TC 261 team on standardisation for Additive Manufacturing, technology broker for AM, 20 years hands on experience in (AM) materials and polymer processing, additive manufacturing/ materials development (ceramics, polymers).

PRESENTATION:
W2.4 – “Additive Manufacturing in Hybrid Settings towards Higher TRL Level Applications”

Flegel, Heinrich – Prof.

ORGANISATION: Daimler AG/ ETP ManuFuture
POSITION IN THE ORGANISATION: Member of the Supervisory Board/ Chairman

BIOGRAPHY NOTE:
1978 - CAD/CAM-application in tool design Daimler-Benz AG, Sindelfingen plant
1981 - Senior Manager at process engineering department head of CAD/CAM Mercedes-Benz AG, Sindelfingen plant
1988 - Director machining technology Mercedes-Benz AG, Sindelfingen plant
1993 - Director process engineering Mercedes-Benz AG, Sindelfingen plant
1996 - Director manufacturing and materials technologies Mercedes-Benz AG
1998 - Director advanced manufacturing engineering Research and Technology DaimlerChrysler AG
Since 1991 - Lectures in computer science at Stuttgart University, Germany
Since 2003 - Member of Supervisory Board of DaimlerChrysler AG (name has been changed in October 2007 to Daimler AG), re-election in 2008
Since 2004 - Chairman of ManuFuture High Level Group, re-elected 2009
Since 2007 - President of DVS (German Federation for Welding and related processes)

PRESENTATION:
P1 – “Industry’s Visions and Concepts for Sustainable Economic Growth and Jobs”

Gattiglio, Maurizio

ORGANISATION: Chairman/ Prima Industrie S.p.A.
POSITION IN THE ORGANISATION: EFFRA/ Executive Vice President

BIOGRAPHY NOTE: Maurizio Gattiglio is Executive Vice- President of Prima Industrie S.p.A., a leading engineering corporation operating worldwide in the field of industrial lasers, sheet metal machinery and electronics. He is actually also member of the Board of Directors of Prima Electro North America, MA USA, Chairman of EFFRA European Factories of the Future Research Association and Manufuture Technology Platform High Level Group.

He has worked within the Prima Group since 1986 where he has occupied a number of different positions in R&D, customer support, manufacturing and management. He holds a number of patents of invention in the area of coordinate measuring machines and high power laser technology.

Maurizio Gattiglio obtained a degree in mechanical engineering in 1984 from the Polytechnic of Turin.

PRESENTATION:
P3 – “FoF PPP Projects Results and Outlook”

Gide, Laila

ORGANISATION: THALES
POSITION IN THE ORGANISATION: Advanced Studies Europe Director

BIOGRAPHY NOTE: Prof. Biography note: Laila Gide (Advanced Studies Director Europe) reports directly to Thales CTO within the THALES Strategy, Research and Technology Directorate THALES, for coordinating THALES externally funded research through the Civil and European funding organisation. She is member of the Group Technical Board.

She is active in the European R&D funding since 2002, and represents THALES interest in several trade associations:
• IMGS: Integrated Mission Group for Security: member of the steering group
• GIFAS: member of the security commission
• ITEA: board member

She represents Thales in a number of ETPI and PPPs initiated within FP7 and confirmed in H2020, mainly the ETPIs: NetWorks, NESSI, EpoSS, IS, and Photonics 21, as well as the Institutional PPPs ENIAC, ARTEMIS, as Thales is one the five founding members. For ARTEMIS, she is member of Steering Board and of ARTEMIS JU IRC where she chairs the WG Strategic Research Agenda that delivered the ARTEMIS SRA (2006, 2011, and 2013).

Through her career, she gained experience in positions as technology transfer, industrial operation, and quality director.

PRESENTATION:
W2.6 – “ARTEMIS SRA”
Harris, Adrian

ORGANISATION: ORGALIME
POSITION IN THE ORGANISATION: Director General

BIOGRAPHY NOTE: Adrian Harris is the Director General of Orgalime, the European Engineering Industries Association, which speaks for 38 trade federations representing some 130,000 companies in the mechanical, electrical, electronic, metalworking & metal articles industries of 23 European countries. The industry employs some 10.3 million people in the EU and in 2012 accounted for some €1,840 billion of annual output.

Before joining Orgalime in 1996, Adrian Harris worked for 20 years for a number of general contractors for the construction of complete plants, essentially in the agro-industrial and beverage area.

Adrian Harris was born in 1952 and graduated with an M.A. in languages from Jesus College, Oxford University and an MBA from the University of Leuven.

At present Adrian Harris is Chairman for the Alliance for a Competitive European Industry (ACEI) as well as Board member of the FAIB.

Hedenborg, Tomas

ORGANISATION: Fastems Oy Ab
POSITION IN THE ORGANISATION: Group CEO

BIOGRAPHY NOTE: Tomas Hedenborg is CEO of Fastems Group and Chairman of the Manufacturing Finland Cluster having 340 member companies with total sales of 3.1 billion euros and giving work to about 24,000 people. Tomas Hedenborg is also Chairman of the Board of the Finnish Metals and Engineering Competence Cluster Fimecc Ltd. The first part of his professional career after graduation from Helsinki University of Technology in 1985 was spent in the automotive industry with system suppliers in Germany such as Valeo and Faurecia in R&D executive positions. Moving to general management, Tomas became CEO of automotive module company HBPO GmbH (2001-2005). After that Tomas was CEO of the Finn-Power Group (2005-2008), a Finnish sheet metal machinery manufacturer with a global presence. After Prima Industrie (listed in the Milan Stock Exchange) acquiring FP in 2008, Tomas also became Senior Vice President (Sales, Marketing and Service Business) of the merged Group (2008-2011). Since 2011 he has been Executive Chairman of Fastems Oy Ab (2011-2012) and CEO of Fastems Group (2013-).

Jovane, Francesco – Prof.

ORGANISATION: Politecnico di Milano
POSITION IN THE ORGANISATION: Emeritus Professor

BIOGRAPHY NOTE: Author of more than 200 papers, in the field of manufacturing and innovation, and the book “The Manufacture Road”, in cooperation with E. Westkaemper and D. Williams.

Developed and presented, at the CIRP General Assembly in 2003, the “Manufuture philosophy”, that triggered the European Technological Platform Manufuture, followed by 28 National Platforms and, later, the European ‘Factories of the Future’ PPP Initiative. Currently engaged in the development of a new paradigm: Competitive Sustainable Globalization.

Worked for the Italian Ministry of Research on the definition of several National Research Programmes, in the domain of Manufacturing.

Promoter and director of the first and largest Italian National Programme on FMS, by CNR.

Italian representative within several European Framework Programmes.

Eureka High Level Representative for Italy.


Vice-president for Research of the European and Italian Manufuture Technological Platforms.

Honorary member of the European Factories of the Future Research Association (EFFRA) Board of Directors.

Honorary Fellow and President (2002-2003) of CIRP, the International Academy for Production Engineering.

Recipient of SME Sargent Progress Award, for his contribution to Research and Innovation in Manufacturing.

Karhumäki, Otto

ORGANISATION: Fluidhouse Oy
POSITION IN THE ORGANISATION: Technology Director

BIOGRAPHY NOTE: Otto provides 20 years of industrial experience in the field of production automation. As the previous Research and Development manager at Flexlink Automation Oy, Otto has been involved in a large number of national and international research projects funded by open calls (in particular EUREKA projects) including RI-MACS project until he co-founded Prodatec. As part of his duties at Flexlink Automation, Otto was in charge of the adoption of the set of CAMX standards by developing the new Factory Information Systems of Flexlink products and solutions. As of July 2012 Prodatec Oy was absorbed by its sister company Fluidhouse Oy. Otto’s current interest areas at Fluidhouse include the design of the company’s strategy and ensuring the research and development provisions for achieving it.

PRESENTATION:
PRESENTATION:
PRESENTATION:
PRESENTATION:
Karnouskos, Stamatis

ORGANISATION: SAP

POSITION IN THE ORGANISATION: Research Expert

BIOGRAPHY NOTE: Stamatis Karnouskos is with SAP as a Research Expert on M2M / Internet of Things, investigating the added-value of integrating networked embedded devices in enterprise systems. For more than 15 years Stamatis leads efforts in several European Commission and industry funded projects related to industrial automation, smart grids, Internet-based services and architectures, software agents, mobile commerce, security and mobility. Stamatis is actively involved in several consultations at European Commission and German level dealing with System of Systems, Internet of Things, energy efficiency, SmartGrids, and various R&D projects at European level. Stamatis serves in the technical advisory board of Internet Protocol for Smart Objects Alliance (IPSO) and the Permanent Stakeholder Group of the European Network and Information Security Agency (ENISA).

Kohonen, Mikko Verneri – Dr.

ORGANISATION: VTT Technical Research Centre of Finland

POSITION IN THE ORGANISATION: Senior scientist

BIOGRAPHY NOTE: Dr. Mikko Koho works as Senior Scientist at VTT Technical Research Center of Finland. His research and development work focuses on design, operation and development of production systems and production processes and he has worked both as project manager and researcher in several industrial research and development projects. Mikko Koho received his M.Sc. (Tech) degree in Industrial engineering and management in 2003 and D.Sc. (Tech) degree in 2010, both from Tampere University of Technology.

VTT Technical Research Centre of Finland is the biggest multitechnological applied research organisation in Northern Europe with 3000 employees and 316M€ turnover (2012). VTT provides high-end technology solutions and innovation services and enhances customers’ competitiveness, thereby creating prerequisites for society’s sustainable development, employment, and wellbeing.

Konrad, Konstantin

ORGANISATION: Fraunhofer Institute for Manufacturing Engineering and Automation (IPA)

POSITION IN THE ORGANISATION: Project Manager for Production IT

BIOGRAPHY NOTE: Konstantin Konrad received a master’s degree in cybernetics, engineering 2007 and was awarded a doctorate (magna cum laude) for the research of semantically supported ramp-up of assembly systems in 2013. He is a project manager and senior scientist who has been working in the field of manufacturing IT, factory logistics and systems integration for many years. He has sound expertise in the design, analysis and optimization of flexible production system. In the MINAM community he has a leading role since 2009 (OSG-member, leader of expert group) and was actively involved in the definition of Roadmaps and SRAs.

Lastra, Jose L. Martinez – Prof.

ORGANISATION: Tampere University of Technology

POSITION IN THE ORGANISATION: Professor

BIOGRAPHY NOTE: Jose L. Martinez Lastra received the Ingeniero Tecnico Industrial degree in electrical engineering from the Universidad de Cantabria, Santander, Spain, and the M.Sc. degree (with Distinction) and the Dr.Sc. in Technology degree (with Commendation) in automation engineering from the Tampere University of Technology, Tampere, Finland. He joined the Institute of Production Engineering, Tampere University of Technology in 1999, and became a full professor of factory automation in 2006. Previously, he carried out research at the Departamento de Ingenieria Electrica y Energetica, Santander, the Institute of Hydraulics and Automation, Tampere, and the Mechatronics Research Laboratory of the Massachusetts Institute of Technology, Cambridge. He has published over 200 original papers in international refereed journals and conference proceedings. His main research interest is in the application of information and communication technologies in the field of factory automation.

Prof. Lastra serves as Associate Editor for the IEEE Transcriptions on Industrial Informatics and he is a member of a number of editorial boards.

Prof. Lastra is the coordinator of the eSCOP: Embedded systems for Service-based Control of Open manufacturing and Process automation ARTEMIS (call2012) research project.

Lastra, Jose L. Martinez – Prof.

ORGANISATION: Tampere University of Technology

POSITION IN THE ORGANISATION: Professor

BIOGRAPHY NOTE: Jose L. Martinez Lastra received the Ingeniero Tecnico Industrial degree in electrical engineering from the Universidad de Cantabria, Santander, Spain, and the M.Sc. degree (with Distinction) and the Dr.Sc. in Technology degree (with Commendation) in automation engineering from the Tampere University of Technology, Tampere, Finland. He joined the Institute of Production Engineering, Tampere University of Technology in 1999, and became a full professor of factory automation in 2006. Previously, he carried out research at the Departamento de Ingenieria Electrica y Energetica, Santander, the Institute of Hydraulics and Automation, Tampere, and the Mechatronics Research Laboratory of the Massachusetts Institute of Technology, Cambridge. He has published over 200 original papers in international refereed journals and conference proceedings. His main research interest is in the application of information and communication technologies in the field of factory automation.

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Prof. Lastra is the coordinator of the eSCOP: Embedded systems for Service-based Control of Open manufacturing and Process automation ARTEMIS (call2012) research project.
Lemke, Max

**ORGANISATION:** European Commission, DG for Communications Networks, Content & Technology

**POSITION IN THE ORGANISATION:** Deputy Head of Complex Systems and Advanced Computing Unit

**BIOGRAPHY NOTE:** Max Lemke is the Deputy Head of Unit for “Complex Systems and Advanced Computing” in Directorate General CONNECT of the European Commission. In particular he is responsible for developing visions and strategies in the area of research and innovation in the fields of responsibility of the unit, which include embedded and cyber-physical systems, advanced computing, and ICT for manufacturing. Max is involved in the preparation of the next research and innovation programme - Horizon 2020. Since 1 July 2013, Max Lemke is acting Head of Unit.

As Deputy Head of Unit for “New Infrastructure Paradigms and Experimental Facilities” from 2007 – 2010 he was responsible for building the European FIRE Future Internet Research and Experimentation Facility under the ICT Programme, and for stimulating the deployment of internet-based services in smart cities by using open innovation methodologies. He was also involved in starting the Public Private Partnership initiative on the Future Internet. Since 1999, Max has worked as scientific officer in different ICT domains of the research, development and innovation programmes of the European Commission, e.g. Grid technologies, Simulation and Visualisation, High Performance Computing, Security.

Before joining the Commission, Max has worked in research and industry in Germany, the US, and the UK. With a Doctorate in Natural Sciences, he has a scientific background in numerical mathematics, parallel computing, and software engineering.

Marenco, Claudia – Dr.

**ORGANISATION:** European Research Council Executive Agency

**POSITION IN THE ORGANISATION:** Scientific Officer

**BIOGRAPHY NOTE:** Claudia MARENCO is a chemist by education (Degree in industrial chemistry, University of Bologna and PhD in chemistry, University of Sheffield) and has worked in the petrochemical manufacturing industry for 11 years (Shell Chemicals, Total Petrochemicals) before joining the European Commission in 2009 (Directorate General Research and Innovation, Directorate of Industrial Technologies), and the European Research Council Executive Agency (ERCEA) in 2012.

She works as Scientific Officer in the unit “Scientific Affairs”, mainly dealing with the organisation of European Research Council calls for research proposals, management of evaluations and scientific follow-up of running projects in the area of Physical and Analytical Chemical Sciences.

Mattuccii, Massimo – Dr.

**ORGANISATION:** EFFRA/ Comau Group

**POSITION IN THE ORGANISATION:** Co-Chairman/ Senior Corporate VP

**BIOGRAPHY NOTE:** In 1968 he received his Doctorate Degree in Nuclear Engineering at the Politecnico di Torino.

Since 1969 active in the Machine Tool Business (Morando, Graziano, Comau), in 1988 was appointed Comau Group VP Engineering (CTO), responsible of Comau Product Development. In 1999, after the acquisition of Pico in US and Renault Automation in France, he was appointed Comau Executive VP for Marketing and Business Development, moving to Southfield – MI, USA.

From 2002 he has been Comau Group Senior Corporate VP for Strategic Planning and Advanced Engineering, in Turin - Italy.

In July 2005 he was appointed Chief Operating Officer of the Comau Powertrain Systems Business Unit.

From beginning of 2009 he is involved in Comau Business Development and in promoting Comau R&D and Innovation projects.

In April 2009 he was elected Chairman of EFFRA (European Factories of the Future Research Association), confirmed in 2011 by the EFFRA General Assembly.

In December 2012 was invited by EC VP Tajani to participate in the new High Level Group (HLG) on Key Enabling Technologies (KETs) and in June 2013 was confirmed as Co-Chairman by the EFFRA General Assembly.

**PRESENTATION:**

Chair of W2.3 – “Building an Excellent Science Base in Manufacturing”

Presentations:


P5 – “Transformation of a Consumer Electronic Business in Response to Global Competition”

**PRESENTATION:**

Chair of P1 – “HORIZON 2020: Context and Vision for the European Manufacturing and Research”

P2 – “Factories of the Future & HORIZON 2020”

**PRESENTATION:**

P2 – “Factories of the Future & HORIZON 2020”

**PRESENTATION:**


**PRESENTATION:**

P5 – “Transformation of a Consumer Electronic Business in Response to Global Competition”
**Musher, Semen L. – Prof.**

**ORGANISATION:** Russian Foundation for Technological Development  
**POSITION IN THE ORGANISATION:** Managing Director  

**BIOGRAPHY NOTE:** Semen L. Musher - Doctor of Physical and Mathematical Sciences, Moscow Institute of Cosmic Research, Russian Academy of Sciences, Moscow, Russia.  

Awarded the Russian Government Prize in the Field of Science and Technology; The Russian Federation President's Award for the Key Input in the Formation of Telecommunications and Information Infrastructure of the Russian Education System; The Konstantin Ushinsky Medal - the Main Award of the Russian Ministry of Education - for Outstanding Contribution to Russian Education.  

In March 2012 Dr. Semen L. Musher joined the Russian Foundation for Technological Development as Managing Director.  

August 2011 – June 2012: Chief Project Manager For Mining and Metallurgy, Vnesheconombank Engineering Division, Moscow  

April 2011 – July 2011: Head of the consulting project developed for JSC Uralkali “Development of the strategic scenario of the Uralkali’s engineering and research organizations”, Berezniki, Perm, St. Petersburg.  


August 2009 – December 2010: Head of the engineering and consulting projects, ONEXIM Group, Moscow.  

September 2006 – June 2009: General Director of the research and engineering organization “GIPRONICKEL Institute”, JSC MMC Norilsk Nickel, Saint-Petersburg. Annual budget was near $100 million; the number of employees 1500.  


July 2000 – February 2005: Director of Internet Programs, Federation of Internet Education, Moscow.  

Eduational program of YUAND, TNP-8P, Magnitogorsk Metallurgical Combine, FOSAGRO and other companies.

**Paci, Augusta Maria – Dr.**

**ORGANISATION:** National Research Council of Italy (CNR)  
**POSITION IN THE ORGANISATION:** Technologist Director of Chemical Science and Materials Technology Department  

**BIOGRAPHY NOTE:** Dr. Augusta Maria Paci is Technologist Director, and former she was Researcher within the Italian public research organization CNR. She holds the Master in Enterprise Engineering, University of Tor Vergata Rome. Her competences cover: strategic analysis of research-industry activities; foresight for industrial research, Knowledge Management. She has been Coordinator of several European Projects and participates in International Conference Committees and Boards. Her field of interest covers forward-looking activities and related methodologies, modeling and early impact assessment analysis of enabling technologies in the field of manufacturing related research. She is author of international scientific papers and dissemination paper. She is Co-editor of the Springer JIMS Special Issue on Engineering Education published in 2012. At EU level, she collaborates as independent expert with the EC Joint Research Centre, with the DG for Research & Innovation Directorate G – Industrial Technologies and with the DG – Enterprise.  

She is member of the ETP Manufuture ISG and contributed to the Manufuture Research Agenda and to the Leadership FP6 SSA.  

Currently, she is Member of the S&T Foresight Project of CNR where she is Coordinator of the Climate Change Thematic Group. In the research Department for Chemical Sciences and Materials Technology, she is Responsible for a Discussion and Forward-Looking Group participated by researchers.

**Neophytou, Neophytos**

**ORGANISATION:** European Commission, DG for Research & Innovation  
**POSITION IN THE ORGANISATION:** Research Programme Officer  

**BIOGRAPHY NOTE:** Neophytos Neophytou is working as a Research Programme Officer in the Directorate General for Research & Innovation, European Commission. He has a Bachelor in Mechanical Engineering and a Master in Business Administration. He is the Project Officer for the Manufuture 2013 Conference. His portfolio of projects include 20 FP7 funded projects. He is the contact person for the European Technology Platform MANUFUTURE.

**BioGraPhy note:**

Neophytos Neophytou, is working as a Research Programme Officer in the European Commission, DG for Research & Innovation. He has a Bachelor in Mechanical Engineering and a Master in Business Administration. He is the Project Officer for the Manufuture 2013 Conference. His portfolio of projects include 20 FP7 funded projects. He is the contact person for the European Technology Platform MANUFUTURE.

**Paci, Augusta Maria – Dr.**

**ORGANISATION:** National Research Council of Italy (CNR)  
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**Nagy, Dan**

**ORGANISATION:** Intelligent Manufacturing Systems  
**POSITION IN THE ORGANISATION:** Managing Director  

**BIOGRAPHY NOTE:** As Managing Director of the Inter-Regional Secretariat of Intelligent Manufacturing Systems, Mr. Nagy is currently responsible for oversight of activities related to the IMS international program including general management, marketing, finance, project portfolio, and outreach activities.  

Mr. Nagy was a former manager of corporate accounts for Apogent Technologies, where he guided sales and marketing of scientific products to large accounts. He developed and implemented contracts with major group purchasing organizations and large commercial laboratories, and pioneered group contracting with the Department of Veteran's Affairs and Department of Defense. In his early career, he worked as a medical technologist and laboratory manager.  

Mr. Nagy holds a Bachelor of Arts from Lycoming College, and a Masters of Business Administration degree from Baker University. He also holds certification in medical laboratory technology and other certifications.

**BioGraPhy note:**

Mr. Nagy holds a Bachelor of Arts from Lycoming College, and a Masters of Business Administration degree from Baker University. He also holds certification in medical laboratory technology and other certifications.

**Presentation:**

PS – “Collaboration in Manufacturing through Clustering”

**Presentation:**

Chair of W1.1 – “Flexible and High Performance Manufacturing: Impact through Clustering Activities”

**Presentation:**

PS – “Research Opportunities and International Collaboration through IMS”

**Presentation:**

Chair of W2.5 – “Future-Oriented Activities: Mutual Benefits towards Grand Challenges”
### Pavalkis, Dainius – Prof.

**ORGANISATION:** Ministry of Education and Science of the Republic of Lithuania  
**POSITION IN THE ORGANISATION:** Minister  
**BIOGRAPHY NOTE:** In 1984 Dainius Pavalkis graduated from the Lithuanian University of Health Sciences (former Kaunas Medical Institute) with the qualification of a medical doctor. He continued his studies at the clinical residency programme and later completed post graduate studies. 1995-2012 Dainius Pavalkis has been Professor at Lithuanian University of Health Sciences. Throughout his career he has been an intern more than 50 occasions since 1995 at the best known clinics in the UK, USA, Austria, Italy, Germany, etc. He has published over 280 scientific papers, and is a co-author of two textbooks. He has supervised or advised doctoral students on their dissertations. He has given over 70 presentations and lectures at international events and has been a guest lecturer on more than 30 occasions. Prof. Dainius Pavalkis has been a visiting professor at universities in Athens, London, and Prague. Recently he is a member of various international medical organisations. Also he is a member of the editorial boards of Lithuanian and foreign medical journals. He is Member of the Labour Party currently. In December 2012, Prof. Dainius Pavalkis was appointed Minister of Education and Science of the Republic of Lithuania.

### Pickel, Peter – Prof.

**ORGANISATION:** MANUFUTURE Agricultural Engineering and Technologies Sub-ETP  
**POSITION IN THE ORGANISATION:** Chairman  
**BIOGRAPHY NOTE:** Position Title: Manager External Relations, Deputy Director John Deere ETIC  
**Service Date:** Apr. 1st 2007 John Deere Werke Mannheim  
**June 1st 2010 European Technology and Innovation Center | Education:** 1988 Diploma in Mechanical Engineering Technical University of Berlin | 1993 Dr.-Ing. (PhD), Technical University of Berlin  
**Career Highlights:**  
- Employed at Technical University of Berlin, Institute for Agricultural Engineering and Construction Machinery (June 1988 – May 1993)  
- Professor for Agricultural Engineering, Environmental Technology and Communal Machinery at the Martin-Luther-University of Halle-Wittenberg, Jan. 2000 – Mar. 2010)  
- Dean of the Agricultural Faculty at the Martin-Luther-University of Halle-Wittenberg, Oct. 2003 – Sep 2006)  
- Director of the Institute for Agricultural Engineering at the Martin-Luther-University of Halle-Wittenberg (Apr. 2000 – Sep. 2006)  
- Manager Tractor Applications at JDWM (Apr. 2007 – June 2010)  
- Affiliations, Organizations:  
  - German Engineering Societies (VDI-MEG as a board member)  
  - Chairman of the European Sub-Technology Platform for Agricultural Engineering and Technologies (MANUFUTURE AET)

### Pelтомáki, Antti

**ORGANISATION:** European Commission  
**POSITION IN THE ORGANISATION:** Deputy Director-General for Enterprise and Industry  
**BIOGRAPHY NOTE:** Mr Antti Pelтомáki is Deputy Director-General of the Enterprise and Industry Directorate-General since February 2012. In this function, Mr Pelтомáki is responsible for regulatory policy including internal market and standardisation, sustainable growth and EU 2020 which includes industrial innovation and mobility industries, textiles, chemicals, metals, mechanical, electrical industries, raw materials, tourism and key enabling technologies.  

Before that, Mr Pelтомáki was Deputy Director-General in the Information Society and Media Directorate General where he was firstly responsible for research cooperation in the context of the seventh research framework (2007-2013) and thereafter for regulatory policy in the telecommunications, media and internet fields.  

Mr Pelтомáki has also worked as Head of the Commission’s representation in Helsinki in 2006 – 2007.  

Prior to joining the Commission in 2006, Mr Pelтомáki worked for almost ten years in the office of the Prime Minister of Finland, initially as State Under-Secretary, then State Secretary for EU affairs.  

A lawyer by training, Mr Pelтомáki began his career as a coordinator of international research and training courses at the Helsinki University of Technology.

### Piovesan, Laura

**ORGANISATION:** European Investment Bank  
**POSITION IN THE ORGANISATION:** Head of Innovative Industries Division – Projects Directorate  
**BIOGRAPHY NOTE:** Laura PIOVESAN works at the European Investment Bank (EIB), the EU’s long-term financing institution headquartered in Luxembourg. Since joining the Bank in 2000, her prime role has been to carry out techno-economic assessments of projects requesting EIB funding. Initially working in the chemical, pharmaceutical and related sectors, she is currently heading the team within the EIB that is responsible for the due diligences of investments in R&D-intensive manufacturing sectors, including the engineering, automotive and chemical industries. Laura is a graduate in Chemical Engineering from the University of Padova, Italy. Prior to joining the EIB she worked for eight years for an Italian engineering company, first as Research Scientist and then as Industrial Economist.

### Presentation:

**P4 – “Lithuania’s Perspective on R&D and Innovation for the upcoming 2014-2020”**

**Presentation:**

**P1 – “Innovation in European Manufacturing”**

**Presentation:**

**P4 – “EIB Funding Possibilities in HORIZON 2020”**

**Presentation:**
BioGraPhy note: Coming from an academic background in Composites and Joining, I have expertise developed in laser welding of plastics and fabrics, adhesive bonding, and laser and laser hybrid welding of metallics. As the Business Group Manager at TWI Ltd, I manage and develop the Joining Technologies Group, which includes laser, electron beam and resistance welding, brazing and soldering, friction welding, diffusion, adhesive bonding and coatings.

Dr. Sommer is currently also leading the European Technology Platform for Sustainable Chemistry SusChem. SusChem is a multi-stakeholder platform that aligns positions from all parts of the Chemical and Biotechnological value chains in order to strengthen its impact in improving the competitiveness of Europe for these sectors.

He has also served as a member of the DG-RTD NMP Expert Advisory Group at the European Commission.

Dr. Sommer is a physicist by education and joined Bayer in 1987. He held positions of increasing responsibility in Germany in Central Research and in the US in the Polymers business, where he was responsible for Bayer’s polymers research in the US.

In 2001, Dr. Sommer returned to the Bayer AG Central Research as Head of the Physics division. In July 2002 he was appointed to Senior Vice President and Head of Customer and Product Management (Customer Management, Portfolio Management, Marketing, Sales) for Bayer Technology Services. He is also a member of the Global Management Team.

Dr. Sommer is currently also leading the European Technology Platform for Sustainable Chemistry SusChem. SusChem is a multi-stakeholder platform that aligns positions from all parts of the Chemical and Biotechnological value chains in order to strengthen its impact in improving the competitiveness of Europe for these sectors.

BioGraPhy note: Dr. Klaus H. Sommer currently serves as President of the A.SPIRE aisbl organization which is the driving force behind the concept, design and implementation of the Public-Private Partnership SPIRE (Sustainable Process Industry through Resource and Energy Efficiency), an initiative of 8 sectors from the process industries.

Dr. Sommer is a physicist by education and joined Bayer in 1987. He held positions of increasing responsibility in Germany in Central Research and in the US in the Polymers business, where he was responsible for Bayer’s polymers research in the US.

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**Presentation: W2.4 – “European Tooling Platform”**

**Tocha, Rui Jorge Gregório – Dr.**

**Organisation:** CENTIMFE  
**Position in the Organisation:** General-Manager  
**Biography Note:** Mr. Rui Tocha has a Degree in Economics and a Master Degree in International Economy. From 1995 to 1997 he worked for the Portuguese Ministry of Industry. Since 1997, he is the General-Manager of CENTIMFE, where he also assumes the responsibility in the co-ordination of national and European projects. He has been the co-ordinator of several R&D projects, namely: RNPR (National Network of Rapid Prototyping), SKOGFLOF (Leonardo Da Vinci), TRAAAP (Leonardo Da Vinci), EUROTOOLING 21 (IP project for SME’s presented to the FP6 of the EU), and CLUSTERPLAST (a European project that promotes the cooperation between clusters in Europe). Between 1999 and 2001, he was also member of the Direction of RECET – Association for the Portuguese Technological Centers, becoming its President between 2009 and 2011. Since 2008 he has been the General Manager of the European Tooling Platform and since 2009, Mr Rui Tocha is also the General-Manager of POOL_NET – Portuguese Tooling Network, that coordinates the Portuguese Engineering & Tooling Cluster.

**Presentation: W2.3 – “Future and Emerging Technologies (FET) in H2020”**

**Tuokko, Reijo – Prof.**

**Organisation:** Tampere University of Technology, Department of Production Engineering  
**Position in the Organisation:** Professor  
**Biography Note:** Reijo Tuokko has been full Professor at Tampere University of Technology since 1990. Before his full professorship he has worked 12 years in responsible positions in industry and four years as an associate professor in machine automation in Lappeenranta and Tampere. He has more than 35 years’ experience in discrete manufacturing and assembly from processes to machine and system level and up to supply networks. He has been programme manager and coordinator of two big national technology programmes in 1996-1999 (LASSI –Light Assembly Industry) and 2005-2009 (SISU -Innovative Manufacture). Professor Tuokko has strong experience in European and other international research collaboration, and he has also been a member of the High Level Group of MANUFACTURE since 2005, and a member of the board of EFFRA – the European Factories of the Future Research Association (2009-2013). Professor Tuokko has been the co-chair of the Final Assembly Technical Working Group and co-author of the Final Assembly chapter of the NEMI 2003 and NEMI 2005, 2007, 2009 and 2011 Technology Roadmaps (NEMI – International Electronics Manufacturing Initiative). He is member of the Society of Manufacturing Engineers and the IEEE. He is also member of the Finnish Academy of Technology TTA. He is the author of over 300 technical and scientific publications in magazines, journals and conference proceedings and has had several plenary, keynote and invited conference presentations.

**Presentation: P4 – “View on Smart Specialisation: Baltic Manufacturing Belt”**

**de Touzalin, Aymard**

**Organisation:** European Commission, DG for Communications Networks, Content & Technology  
**Position in the Organisation:** Deputy Head of Future & Emerging Technologies (FET) Unit  
**Biography Note:** Aymard de Touzalin, is an engineer by education from the Ecole Polytechnique in France. He has worked for more than 10 years at Accenture mainly on large international IT projects before joining the European Commission in 2002 at the Information Society Directorate General. Since 2007, he works as Deputy Head of Unit in the unit “Future and Emerging Technologies”, mainly dealing with the strategic planning of the research policy for future technologies and with the implementation of the related part of the European research program (calls for research proposals, management of evaluations and scientific follow-up of running projects).

**Presentation: Chair of W1.2 – “Supply Chains for Customised Products”**

**Tolio, Tullio Antonio Maria – Prof.**

**Organisation:** National Research Council of Italy (CNR)  
**Position in the Organisation:** Director of Institute of Industrial Technologies and Automation  
**Biography Note:** Tullio Tolio is Full Professor of “Manufacturing and Production Systems”. He is the Director of ITIA-CNR. During his career, he has covered the positions of: Head of the Ph.D. program in “Manufacturing and Production Systems” of Politecnico di Milano, Member of the Evaluation Board of Politecnico di Milano, Delegate of the Rector of Politecnico di Milano on “Quality assurance in education”.  
He has published more than 150 papers in international journals and international conferences. He is Associate Editor of the SME Journal of Manufacturing Systems and Member of the Editorial Board of the CIRP Journal of Manufacturing Science and Technology (CIRP-JMST). He is a “Fellow” of the CIRP (the International Academy for Production Engineering) and Member of the Directory Board of AITEM Italian Association for Manufacturing (Associazione Italiana di Tecnologia Meccanica).  
He is deeply involved in the definition of research policies and roadmaps at European, Italian and Regional level. He is member of the HLG (High Level Group) of the MANUFACTURE Platform, member of the AIAG (Ad Hoc Industrial Advisory Group) of EFFRA (European Factories of the Future Research Association).

He is President of the CCG (governing board) of the Italian Cluster “Intelligent Factories” (“Fabbrica Intelligente”), Director of the Flagship Project “Factories of the Future-Italy” (“Fabbrica del Futuro”) of the Italian National Research Programme 2011-2013 (“Programma Nazionale della Ricerca 2011-2013”) Member of the governing board of the Lombardy Region Cluster Intelligent Factories (“Fabbrica Intelligente Lombardia”).
**Westkämper, Engelbert – Prof.**

**ORGANISATION:** Fraunhofer IPA/IFF and GsAME, University of Stuttgart  
**POSITION IN THE ORGANISATION:** Em. Director (retired in 2011)  
**BIOGRAPHY NOTE:** Westkämper studied Mechanical Engineering at the RWTH Aachen. After his Dr. degree he worked in leading positions from 1977 to 1987 in aircraft (MBB) and in electronics industry (CAGD) with responsibilities for manufacturing technologies. From 1988 to 1995 he was appointed as Professor and director of the Institute of Machine Tools and Manufacturing Technologies (IWF) at the University of Braunschweig. 1995-2011 he was head of the Institute of Industrial Manufacturing and Management (IFM) at the University Stuttgart and executive director of the Fraunhofer-Institute for Manufacturing Engineering and Automation (IPA) in Stuttgart, Germany.  
He was founder and CEO of the Graduate School of Excellence for advanced Manufacturing Engineering (GsAME) in Stuttgart.  
Westkämper was awarded by universities in Germany, Ukraine and Romania. He is Fellow of CRP and AACE. He is one of the investigators and Member of the High Level Group of the EU Technology Platform MANUFACTURE.

**PRESENTATION:**  
Chair of W1.3 – “Digital and Smart Factories”

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**Vallés, José-Lorenzo – Prof.**

**ORGANISATION:** European Commission, DG for Research & Innovation  
**POSITION IN THE ORGANISATION:** Head of Unit  
**BIOGRAPHY NOTE:** Graduated in Physics and Chemistry. Ph. D. in Physics from the University of Barcelona (E). Postdoctoral research in Computational Physics during four years at Courant Institute of New York University and the University of Minnesota (USA). Associate Professor of Condensed Matter Physics at the University of Barcelona (at present under special leave).  
Since joining the European Commission in 1991, he first worked at the Institute for Advanced Materials (NL), then as S&T Counsellor at the EC Delegation in China, and finally he moved in 1999 to DG Research and Innovation in Brussels, where he has been Head of the Materials Unit and is now Head of the Production Unit.

**PRESENTATION:**  
Chair of P3 – “FP7 Results and Outlook for HORIZON 2020: Research and Innovation for Sustainable Industrial Competitiveness”  
P3 – “Horizon 2020: FoF Call of 2014”

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**Wollschaeger, Martin – Prof.**

**ORGANISATION:** TU Dresden  
**POSITION IN THE ORGANISATION:** Chair of Industrial Communications, Director of the Institute of Applied Computer Science, Faculty of Computer Science  
**BIOGRAPHY NOTE:** Martin Wollschaeger studied Electrical Engineering at Otto-von-Guericke University Magdeburg. He received his Ph.D. in 1991 and Habilitation degree in 2001 for research in automation and control system. From 2000 to 2003 he worked as a researcher at Ifak Institute for Automation and Communication, Magdeburg. Since November 2003 he is full professor at TU Dresden, chair of Industrial Communications, and director of the Institute of Applied Computer Science, Faculty of Computer Science at TU Dresden.  
His research topics are industrial communication systems and automation networks. This includes fieldbuses and industrial Ethernet, information modeling, middleware concepts, management of heterogeneous networks, life cycle management, and semantic descriptions. The main goal of this work is to support and to enhance integration processes in manufacturing.  
Prof. Wollschaeger is leader and member of various expert groups in industry and in the academic community. This includes Manufacturing Execution Systems, Cyber Physical Systems, Condition Monitoring, and Engineering Technologies. He is involved in international standardization, and is author and co-author of more than one hundred scientific publications.

**PRESENTATION:**  
W2.6 – “PLANTCockpit - a Service-oriented System for Enhancing Productivity in Manufacturing”

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**Zoz, Henning – Prof.**

**ORGANISATION:** Zoz Group  
**POSITION IN THE ORGANISATION:** CEO & President  
**BIOGRAPHY NOTE:** Zoz Group manufactures and supplies Mechanical Process Engineering Equipment and manufactures and supplies with insofar own equipment Nanostructured Materials from powders, layers and bulk parts to magnetic filters, super-light-weight PM, batteries, hydrogen-drives with H2-solid-state-absorber tanks incl. vehicles. Affiliated companies serve E-/E-H2-mobility, maintain buildings and operate student’s dormitories, a tour operator as well as sailing and aircraft operations. In 2012 the first public bridge was set-up by Zoz High Performance Cement/Concrete.  
Zoz holds numerous patents and trademarks, more than 50 papers, teaching at numerous universities and institutes all over the world. He is one of the founders and main organizers of the OZ-German-Japanese Symposium on Nanostructures and a member of a number of program/advisory committees all over the world.  
Due to his expertise in energy storage materials and energy storage, including integration and drives, Zoz became a prominent address, when it comes to cost-effective utilization of renewable energy sources for mobile and stationary applications.  
Awards:  
Materialica-Award (2010), Germany;  
Manager of the Year (2011), South Westphalia, Germany;  
Ibero-American Silver-Award (2012), Mexico;  
Innovation-Award- Sauerland (2012), Germany;  
PMAI-Fellow-Award (2013), India;  
Nomination for the German Environmental Award [2013] “Power to Gas to Fuel”.

**PRESENTATION:**  
P3 – “Nanostructures for Zero Emission Future Transportation, Energy & Economy for Sustainable Industrial Competitiveness”
INDUSTRY VISITS
State research institute Center for Physical sciences and Technology (CPST) – the biggest research institute in Lithuania founded in 2010. Our organization is located in a strategic place in Vilnius which is the capital of Lithuania where financial and industrial potential is concentrated. Opportunities are open for shared financing and use of laboratories. For this reason we can offer different scientific research for industry. Contemporary research infrastructure, many years of experience and attractive research prices are the main reasons why we are preferable to Lithuanian and European partners.

Cornerstones of the research – Optoelectronics and Laser Technologies, Environment-friendly Technologies, Nuclear Physics and Radioecology, Organic Chemistry and Bionanotechnologies, Electrochemical Materials and Functional Materials, Electronics and Sensors, Fundamental Research, and Metrology – provide a unique opportunity and a deep obligation to create innovations driving the economy and shaping the society. We will serve as catalyst for this direction via international and national projects, patents, comprehensive know-how and bridging applied research and high-tech business.

Objectives of scientific activity:

- to ensure the international level competence in the national physical and technology science fields,
- to carry out the long-term fundamental and experimental research in the fields of physics, chemistry and technologies important to the continuity and development of the national economy and society;
- to participate in carrying out expertise in the fundamental research and experimental development projects, programs and expertise conforming to competence of the Center, providing scientific consultations and implementing the patent activity;
- to collaborate with business, public authority and society representatives, to perform contract work in the scientific research and experimental development fields, to render methodological and other assistance;
- to consolidate state-of-the-art scientific investigations in chemistry, physics and technologies in Lithuania, to optimally satisfy the demands of the national economy growth and training highest qualification scientists as well as to disseminate scientific knowledge to the society and introduce it into the culture, education, public health, social and economic activity, to contribute to the development of economy based on innovations and know-how and upbring the knowledge-susceptible society;
- to maintain close creative contacts with other Lithuanian and foreign science and studies institutions and researchers.
OPTIDA, UAB

www.optida.lt
Savanoriu str. 231, LT-02300 Vilnius, Lithuania | Phone: +370 52649629, Fax: +370 52641809, E-mail: sales@optida.lt

OPTIDA is ISO9001 certified Lithuanian manufacturer of lasers, laser systems and optoelectronics for basic research and industrial applications. Employing 30 years experience and close partnership with scientific community, OPTIDA is focused on high performance advanced solutions.

More than 90 % of the all products are exported. Products are sold in more than 40 countries worldwide. Products are serviced by employing dedicated service team and distributors network in more than 20 countries. OPTIDA products gained trust among famous universities and research centers: CERN (Switzerland), NASA, National Institute of Standards and Technology (NIST), Lawrence Livermore National Laboratory (USA), Max Planck Institute, Garching (Germany), Cambridge university (UK), SOREQ National Research Centre (Israel), Mitsubishi Heavy Industries, Ltd (Japan) are just a few of them. The increasing demand in industry for diode pumped ultra-fast and tunable wavelength laser technologies (which have already been developed by EKSPLA) opens new horizons in other markets. New possibilities, provided by the use of lasers, are vital in certain industries, including semi-conductor, medical, material microprocessing, measurement and bio technologies, life sciences.

Strong R&D team enables to customize and supply products from single unit to OEM series. In house design and manufacturing ensures operative development and manufacturing of the new products. Products are available from several standard units for R&D applications to series customized solutions for OEM (Original Equipment Manufacturers). Today all EKSPLA products are designed and manufactured at EKSPLA. Main products include:

- Solid-state lasers, laser systems and accessories for R&D applications
- Ultrafast fiber lasers
- Industrial DPSS lasers

Custom Developments

- Ultrafast Optics
- Laser Optic
- Optical Coating Services - parts with require specifications and quality.
- Customized. The quality control before and after coatings with measuring systems makes sure OPTIDA supplies produced coating simulation allows as design and produce various kind of coatings or optical elements like typical or completely customized. Direct computerized optical monitoring during coating process and state-of-the-art coating software for custom coating simulation allows as design and produce various kind of coatings or optical elements like typical or completely customized. The quality control before and after coatings with measuring systems makes sure OPTIDA supplies produced parts with require specifications and quality.

Products and Services:

- Optical Coating Services -
  - Antireflection Coating Services;
  - High-Reflection Coating Services;
  - Laser Optic;
  - Ultrafast Optics
- Custom Developments

- Complete spectroscopy systems
- Laser power supply and cooling units, laser optoelectronics
- Custom designed laser systems

EKSPLA, UAB

www.ekspla.com
Savanoriu ave. 231, LT-02300 Vilnius, Lithuania | Phone: +370 52649629, Fax: +370 52641809, E-mail: sales@ekspla.com

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Products and Services:

- Optical Coating Services -
  - Antireflection Coating Services;
  - High-Reflection Coating Services;
  - Laser Optic;
  - Ultrafast Optics
- Custom Developments

PRECIzIKA GROUP

Precizika Metrology, UAB

www.precizika.lt
Zirmunu str. 139, LT-09120 Vilnius, Lithuania | Phone: +370 52363600, Fax: +370 52363609, E-mail: info@precizika.lt

Precizika Metrology has proud history of old traditions in the leadership of design and production of metrological equipment. Its workforce has been involved for over fifty years in the supply of measuring technology and systems to automate factories as well as in the development of optical scale manufacturing technology. Precizika Metrology was acknowledged as the most progressive and innovative high tech enterprise. In 2000 the production process was certified to fully meet the requirements of ISO 9002, in 2003 - ISO 9001.

The company’s goal is to consistently supply high quality products and services to meet customer demands on a timely basis. The main company's products are the linear and angular glass scale gratings, the linear and rotary displacement measuring systems. Precizika Metrology represents the worldwide known companies and suppliers of measuring equipment, executes their installation and services, trains the users, upgrades used CMM.

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Precizika MGAB

SOLET PHOTOVOLTAICS – solar modules.

www.preccika.lt
Zirmunu str. 139, LT-09120 Vilnius, Lithuania | Phone: +370 52363680, Fax: +370 52363690, E-mail: office@precizika.lt

The 9001 certified companies Precizika MGAB, SOLET PHOTOVOLTAICS and PRECIzIKA METROLOGY - linear and angular glass scale gratings, linear and rotary displacement measuring systems.

Mission of the enterprise - Ecologically clean manufacturing of the highest quality and efficiency photoelectric modules. Propagate and promote the use of renewable energy resources. Solet photovoltaic modules are manufactured using the high efficiency technology of polycrystalline and monocrystalline silicon solar cells. The 14-17 percent efficiency is achieved by assembling the monocrystalline silicon solar cells into modules. The efficiency of polycrystalline silicon modules reaches 13-16 percent.
Solet Photoelectric Modules are manufactured with half-automatic 3S Swiss Solar System production line, all devices are produced in Switzerland, Germany and Italy. The main devices of such line that require high precision (such like the laminator and solar simulator) are produced in Switzerland, and the device for SEs soldering into stripes and positioning is manufactured in Germany.

Aggressive chemical substances are not used in the manufacturing of Solet Photoelectric Modules. The main operation is soldering of SEs into stripes during which waste generated from soldering reaction meets the Cleaner Production standards. The following soldering reaction products are cleaned using high quality steam collectors, in particular and the air cleaned with Hepa 13 filters is discharged into a working zone (the particle size is up to 0.5 micron and the air cleanness is more than 99.95 percent).

ARGINTA GROUP
www.arginta.lt
Moletu road 71, LT-14259 Vilnius, Lithuania | Phone: +370 52715273, Fax: +370 52729905, E-mail: info@arginta.lt

ARGINTA Group - Arginta Group originates from the Lithuanian capital private limited company UAB Arginta with the lifetime dating back to 1991. Promising ideas over 20 years have grown into a market leader. Established only in 2012 July currently Arginta Group encompasses 5 companies, which all co-operate closely: Arginta, Arginta Engineering, Arginta Investment, Bemetas and Bukrita.

Bemetas and Bukrita – are two small companies offering electro-automation production and installation services.

Arginta Investment provides real estate management & shared services for all Group.

Arginta has two distinct areas: renewable energy and waste water treatment. 150 kWp solar plant is installed in the company’s premises, operating as an industrial solar electricity laboratory. Its purpose is to explore how various types of photovoltaic panels, assembled in different ways, operate under the atmospheric conditions in Lithuania. Second department provides water supply and wastewater management services: consultations, project development and equipment maintenance.

Arginta Engineering is the biggest company in Arginta Group. It has over 200 employees and specializes in non-standard metal production. Currently company offers drawing (SolidWorks/ProEngineer), welding, wet spray painting, assembly and supply chain management services. Long-term experience with the world’s most reputable corporations, modern computerized equipment, highly competent specialists, respect, pursuit of partnership based relations, hard work and ambitious to always excel – this creates a formula of success.
Company UAB Progresyvūs Verslo Sprendimai (Progressive Business Solutions) was established in 2006 as consultancy company. Mission - to help manufacturing companies to establish required processes and procedures for right company’s management and to optimize them with the aid of ERP systems.

PBS is providing networking services for foreign companies to find suitable suppliers or investment possibilities in Lithuania. The year 2013 company started to operate Free Economical Zone in the middle of Lithuania, Kedainiai district. It is fully infra-structured over 130 hectares industrial zone ready for industrial investments with special taxation rules.

The main activities of the company:

- Market research - analysis of companies’ activities and demands; identification of potential markets; long and short list of possible customers/suppliers.
- Export/investment strategy development for manufacturing companies: analysis of capabilities of companies, identification of fields of activities, development of export/investment strategy plan.
- Management services for manufacturing companies - audit of companies activities; take over and acquisition services, moderation of negotiations, preparation, development and support of activities and management strategies.

Brolis Semiconductors Ltd. is a high-tech company, headquartered in Vilnius, Lithuania. The company was established in 2011 as a spin-off from Technical University Munich, Germany, by three Vizbaras brothers. In 2012, the company signed a long-term investment agreement with a venture capital fund LitCapital. In December, 2012, the company opened a state-of-the-art laser diode and molecular beam epitaxy facility, featuring class ISO 6 cleanroom environment and state-of-the art technological equipment. Brolis Semiconductors is ISO 9001:2008 certified company in the field of development and manufacturing of semiconductor optoelectronic components.

The company focuses on two main business lines:

- **GaSb type-I laser diodes**
  Brolis Semiconductors possess world leading know-how in the technology of GaSb type-I laser diodes. Company develops ultra-low input power devices, operating at room-temperature in the 1800 – 3800 nm wavelength range. Laser diodes are used in novel systems for gas sensing, medical, environmental, industrial process monitoring and defense applications for customers worldwide.

- **Molecular beam epitaxy (MBE) foundry service for AlGaNAsSb material platform**
  Company is an expert in the field of epitaxial growth of arsenide and antimonide based materials. We run a large throughput multi-wafer MBE facility up to 4-inch substrate diameter. Brolis facility include a full characterization line for epi-wafers, including HRXRD, PL mapping, low-T PL, Hall, Microscopy, reflection and transmission in the 1000 nm - 25 000 nm wavelength range. The wafer growth and characterization is carried out in class ISO 5 and ISO 6 cleanroom environment, ensuring the highest quality standards in the industry. All processes are carefully controlled and comply to ISO 9001:2008 standard.
VOESTALPINE VAE LEGETECHA, UAB

www.vae-lgt.lt
Drugystes str. 8, LT-13220 Valciunai, Lithuania  |  Phone: +370 52493096, Fax: +370 52493522, E-mail: a.kovas@vae-lgt.lt

The company voestalpine VAE Legeteche was founded in 1995 by SPRB Lietuvos geležinkeliai (Lithuanian railways) and VAE AG (Austria). 72 employees work in the company. voestalpine VAE Legeteche is able to produce 250 fully assembled railway turnouts and 1200 tons of welded baseplates annually.

The company suggests all types and varieties of turnouts that are presently used and necessary in Lithuania and neighbouring regions: assembled R65, R50 and 60E1 rail profile turnouts with 1:18, 1:11, 1:9, 1:6 crossings, non-standard products made to order of the client, separate turnouts parts and assemblies as well as switch repair and monitoring services.

The produced turnouts are mounted with Hytronics equipments (Ecostar, Spherolock, Hydrolink and etc.) Presently our company is exporting its products to more than 10 countries of the world: Latvia, Austria, Spain, India, RSA, Australia, Holland, America and etc.

Voestalpine VAE Legeteche has got quality management system EN ISO 9001 and environment protection management system EN ISO 14001. All turnouts and crossings are certified by TUV NORD. The turnouts R65-212-1:9 and R65-300-1:11 have got Russian Federal Railway Transport Register certificate.
The conference Exhibition Area will feature the following stands:

- Lithuanian stand
- European Commission (including European Technology Platform, European Conf. on the "ManuFuture" (Manufacturing of the Future), Council of European Employers, EFFRA, ManuFuture Sub-Platforms, etc.)
- FP7 FoF projects – success stories
- IPR Helpdesk and CEN - CENELEC
- RTD Consultancy
- Technology-based industries
- Council of European Employers
- EFFRA
- CEMET
- EFRE
- ORGALME
- Ministry of Economy
- LRT
- Žinų radijas
- Lithuania's business daily
- LT-03154 Vilnius, Lithuania

CONFERENCE INFORMATION DESK:

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