



Working Group 5.7

APMS 2012

International Conference

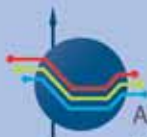
Competitive Manufacturing for Innovative Products and Services

24-26 September 2012
Rodos Palace • Rhodes, Greece

FINAL PROGRAM



INTEGRATED MANUFACTURING SYSTEMS



Athena Research Center
Research and Innovation Center in Information,
Communication and Knowledge Technologies



ORGANIZATIONAL SUPPORT



GROUND FLOOR PLAN





APMS 2012 International Conference

Advances in Production Management Systems

Competitive Manufacturing for Innovative
Products and Services



Welcome Note

Welcome to the IFIP WG5.7 Annual Conference, Advances in Production Management Systems, APMS 2012, being held at Rhodes, Greece, from 24 to 26 September 2012.

Since the first conference that took place in Helsinki back in 1990, APMS is one of the major events and the official conference of the IFIP Working Group 5.7 on Advances in Production Management Systems. Recently, APMS successfully took place in Washington (USA, 2005), Wroclaw (Poland, 2006), Linköping (Sweden, 2007), Espoo (Finland, 2008), Bordeaux (France, 2009), Cernobbio (Italy, 2010), and Stavanger (Norway 2011).

APMS 2012 is sponsored by the IFIP WG 5.7 and co-sponsored by the ATHENA Research & Innovation Centre and the Hellenic Maintenance Society in Greece. In an era of increased globalization and ever pressing needs for improved efficiency, the APMS 2012 theme is "Competitive Manufacturing for Innovative Products and Services". In this setting, among the key elements of success in modern Manufacturing and Production Management are:

- **Resource efficiency:** the ability to perform in a resource efficient manner throughout the lifecycle of a production process, product use or offered services.
- **Key Enabling Technologies:** the exploitation of the latest materials, manufacturing and production control technologies to support competitive and sustainable production.
- **Networked Enterprise and Global Manufacturing and Supply Chains:** the ability to operate as a globally interconnected organization and perform at a global scale, both at intra and inter-organizational scale.
- **Knowledge intensity and exploitation:** the efficient use of the enterprise and human resources tangible and intangible knowledge, including efficient knowledge lifecycle management.
- **Innovation:** the ability to efficiently port R&D results into competitive new forms of production, products or services.

The APMS 2012 Conference brings together leading experts from industry, academia and governmental organizations to present and debate about the latest developments in Production Management Systems and shape up the future of Competitive Manufacturing. It comprises 7 keynote talks and 36 sessions, including a dedicated Industry Panel Session, to offer the practitioners view on linking research to industry, thus efficiently supporting the innovation process.



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The keynotes bring up key issues on the:

- Business Perspective of Manufacturing Research
- Sustainable manufacturing to support a competitive industrial base in Europe
- Integration and interoperability as a key enabler of production efficiency
- Energy and resource efficiency in operations
- Governmental and non-governmental initiatives to foster greater co-operation between academia, research and industry for the Factories of the Future.

The conference sessions broadly cover the following thematic areas:

- Energy efficient manufacturing and related global research initiatives
- Sustainability in production process, products and services
- Management of international operations
- Emerging and ICT technologies in manufacturing, services, logistics and production management
- Enterprise integration and interoperability
- Mass customization, including design and supply chains for mass-customized products and services
- Supply networks and supply chain management
- Product and asset lifecycle management
- Services and service manufacturing systems
- Towards the products of the future
- Production management, operations and logistics
- Design of manufacturing systems
- Robotics in manufacturing
- Innovation and sustainability in developing countries
- Performance and risk management
- Human factors, innovation, quality and knowledge management
- Modern learning technologies in manufacturing and production management

Several special sessions are organised in the above areas and ongoing research initiatives and projects are presenting their progress and achieved results. A **PhD workshop** organised prior to the conference offers the opportunity to PhD researchers to present their research plans, objectives and achieved results to Scientific Discussants and gain valuable feedback to strengthen their research plan and activities.



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Approximately 300 academics, researchers, practitioners and scientists from around the globe have joined the APMS 2012 conference, sharing their expertise and providing insight into what constitutes the currently best practice in Manufacturing and Production Management, while also projecting into the future of Competitive Manufacturing for Innovative Products and Services. The conference involved a high quality International Steering and a Scientific Committee of acknowledged excellence, while the review process involved in total 82 experts, all making key contributions to the Conference success.

We wish to acknowledge the support of **Intelligent Manufacturing Systems – IMS** as the USB Sticks & Lanyards for Badges sponsor. We particularly wish to thank the active members of the IFIP WG5.7 community for their contribution and support to the conference, their support to the papers review process and the promotion of APMS 2012 through their networks and collaborating partners. Particular thanks are due to the **ATHENA Research and Innovation Centre** and the **Hellenic Maintenance Society** in Greece for co-sponsoring and supporting the conference.

The conference is hosted in the island of Rhodes, in Greece, a world-class destination, boasting a unique mixture of ancient, modern and holiday attractions, with a continuing history of well over three millennia. According to myth, Rhodes was created by the union of Helios, the sun Titan, and the nymph Rhode. The ancient city of Rhodes hosted one of the ancient wonders of the world, the Colossus of Rhodes, the giant statue of the ancient Greek Titan, Helios. Manufacturing and production management have made giant strides and contributed significantly towards a world of smart, sustainable and inclusive growth but much more needs to be done and a global effort is needed to this end. The APMS 2012 conference constitutes a focused effort to support such aims.

We wish to thank you all for your contribution and participation in APMS 2012.

Christos Emmanouilidis
Conference Chair

Marco Taisch
Co-chair

Dimitris Kiritsis
Co-chair



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GENERAL INFORMATION

CONFERENCE VENUE

The location, for the APMS 2012, is the fascinating Rodos Palace International Convention Center, a five star resort & convention centre in the unique island of Rhodes, Greece.



SPEAKERS' PREVIEW ROOM

Speakers' PreView Room is located close to the Secretariat. All powerpoint files must be delivered to the Speakers' PreView Room at least one hour before the session starts. Data files must be on CD-Rom or USB stick and cannot be delivered in the session rooms in order to avoid delay and projection problems. Opening hours of the Speakers' PreView Room are the same as the Secretariat's.

NAME BADGES

You may receive your personal name badge at the Secretariat. For security purposes, delegates must wear their name badges throughout the APMS 2012 Conference and to all social events. There will be different colours in the upper side of the badge indicating special categories.

CERTIFICATES OF ATTENDANCE

Certificates of Attendance will be issued by the Secretariat at the end of the APMS 2012 Conference.

INSURANCE

Registration fees do not include insurance of participants against cancellation, accidents, theft or property loss. Participants should arrange for their own insurance.

APMS 2012 CONFERENCE SECRETARIAT

The official APMS 2012 Conference Secretariat is ZITA Congress S.A. which is located at a central point of the Venue.

SOCIAL PROGRAM

Welcome Reception (included in full registration)

24 SEPTEMBER 2012

20.00 *Palace of the Grand Masters (Palazzo dei Grandi Maestri)*
Rhodes Old Medieval Town Centre



Conference Dinner (included in full registration)

25 SEPTEMBER 2012

20.00 *Rodos Palace International Convention Center*





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APMS 2012 - Papers List

Paper	ID Title	Session
107	Model of skills development at the operational level applied to the steel industry	AML-1
108	Introducing "2.0" functionalities in an ERP	ICT-1
109	Proposition of an Energy Product Model Integrating Energy-Efficient Production Planning and a communication Framework for the Energy Supply Chain to Improve the Energy Management of Producing Companies	EEM-1
110	Design and Simulation-Based Testing of a Prediction Market System Using SIPS for Demand Forecasting	ADM-2
111	Design of a Taxation System to Promote Electric Vehicles in Singapore	TPF-1
112	Tactical and Operational Issues in a Hybrid MTO-MTS Production Environment; the Case of Food Production	PMO-1
113	A case study on the benefits that virtualization provides the IT and its positive impact on the environment.	SIP-1
114	Implementing Sustainable Supply Chain in PLM	PAL-2
115	Towards Changeable Production Systems – Integration of the Internal and External Flow of Information as an Enabler for Real-Time Production Planning and Controlling	EII-1
116	The Insignificant Role of National Culture in Global Lean Programmes	MIO-1
117	Modularization - enabler for shop floor involvement in improvement and development	DMC-1
118	Analysis of Manufacturing Process Sequences, using Machine Learning on Intermediate Product States (as Process Proxy Data)	ETP-1
119	Improvement Method of Service Productivity for Taxi Company	SMS-1
121	A note on the simple exponential smooth non-optimal predictor, the order-up-to policy and how to set a proper bullwhip effect.	PMO-1
122	One-of-a-Kind Production (OKP) planning & control: an empirical framework for the Special Purpose Machines Industry	PMO-1
123	A Basic Study on Highly Distributed Production Scheduling	PMO-1
124	Greening manufacturing supply chains – Introducing bio-based products into manufacturing supply chains	SNS-1
127	Energy-efficient machining via energy data integration	EEM-3
128	Finding Optimal Resources for IT Services	SIP-2
129	Improving Tree-based Classification Rules Using a Particle Swarm Optimization	ETP-1
130	Emerging Smart Engineering: An Integrated Manufacturing and Management System	ICT-2
131	Methodology to identify SMEs needs of internationalised collaborative non-hierarchical networks	MIO-1
132	Incorporating Regularity of Required Workload to the MMSP-W with Serial Workstations and Free Interruption of the Operations	DMS-1
134	Full exploitation of Product Lifecycle Management by integrating static and dynamic viewpoints	PAL-2
135	Toward Energy Efficient Manufacturing: A Study on Practices and Viewpoint of the Industry	EEM-1
136	Model for Quality Appraisal in Supply Networks	SNS-2
137	Optimize Resource Utilization at Multi-site Facilities with Agent Technology	MIO-2
139	International R&D and manufacturing networks: Dynamism, Structure and Absorptive Capacity	HFI-1



Paper	ID Title	Session
141	Energy efficiency optimisation in heat treatment process design	GRA-1
142	Modeling a Large Scale Production System Considering Mass Customization and Learning Curve	MSC-1
143	Success factors for PDCA as continuous improvement method in product development	HFI-1
144	Knowledge Management in Set Based Lean Product Development Process	TPF-1
145	Performance Measurement and Decision support systems for Craft oriented small enterprises	PRM-1
148	Investigating the Impact of Information and Communications Technology in Collaborative Planning, Forecasting and Replenishment: a Case Study of an Advanced Planning System in the Norwegian Pharmacy Industry	ICT-1
149	Understanding Product State Relations within Manufacturing Processes	ADM-1
150	Framework for Improving the Design and Configuration Process of a Global Production and Logistic Network	MIO-1
151	Evaluation and Calculation of Dynamics in Environmental Impact Assessment	GRA-1
153	Toward sustainability governance in manufacturing networks	SVC-1
154	Elasticity Measures to Quantify Demand Management in Production Lines	EEM-2
155	Development of Engineering Competences in Brazil and Innovation Policies, an Overview of the Automotive Sector	SIP-1
156	Cost management practices in collaborative product development processes	ADM-1
157	Applying serious games in lean manufacturing training	AML-1
159	Holistic Vision of Sustainability in the Production Chain in Oil Exploration Pre-Salt Layer	SIP-2
160	Incorporating Ergonomics Factors into the TSALBP	DMS-1
161	Fourth Party Energy Provider for the Building Value Chain	PAL-1
162	Private and public partnership: sustainable green actions in Brazil	SIP-2
163	The importance of Brazilian legislation for the improvement of Quality of Life	SIP-2
164	Designing Integrated Data System for Remanufacturing with Radio Frequency Identification Technology	ICT-2
165	Improving Customer's subjective waiting time using Digital Signage	SMS-1
166	MES Support for Lean Production	ICT-2
167	The "Servitization" of manufacturing: A methodology for the development of after-sales services	SMS-1
168	Event-Driven Order Rescheduling Model for Just-In-Sequence Deliveries to a Mixed-Model Assembly Line	MSC-1
169	A Design of Experiments Approach to Investigating the Sensitivity of the Re-Order Point Method	PMO-2
170	Supporting production system development through the Obeya concept	HFI-1
171	Practical considerations about error analysis for discrete event simulations model	PMO-2
172	The multidisciplinary virtual product development integrates the influence of die casting defects in the mechanical response	ADM-2
173	Analysis of the effects of quality management system on the business performances: case study on pharmaceutical industry in Serbia	HFI-1
175	Issues of sustainability on the Brazilian broiler meat production chain	SIP-1
176	Flow and Physical Objects in Experiential Learning for Industrial Engineering Education	AML-1
177	Chinese SME's Sourcing Practices and their Impact on Western Suppliers	SNS-1
178	Critical factors for successful user-supplier integration in the production system design process	DMS-1
179	Enterprise information systems' interoperability: Focus on PLM challenges	PAL-2
180	Dynamic Alarm Management in Next Generation Process Control Systems	PAL-2
181	Multi-objective Mobile Robot Scheduling Problem with Dynamic Time Windows	ROB-1



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Paper	ID Title	Session
182	Comparison of criticality of configuration choices for market price and product cost	DMC-1
183	Game theory based multi-attribute negotiation between MA and MSAs	SNS-1
184	Sizing energy efficiency research opportunities in the ceramic tile production system	SUS-1
185	Analysis of the Underlying Factors for Applicability and Practicality of the Production Control Systems	ICT-2
187	Design of Generalized Ontology for Manufacturing Product Lifecycle Applications	TPF-1
188	Service model for the service configuration	SER-1
190	Integration of reverse engineering techniques and virtual production in the development and design of hydroturbines ict-1	ICT-1
191	The Influence of the Sustainability over the Information Technology Governance Process	SIP-1
193	Universal simulation model in Witness software for verification and following optimization of the handling equipment	ADM-1
194	An Empirical Based Proposal for Mass Customization Business Model in Footwear Industry	MSC-1
196	Multi-camera 3D object reconstruction for industrial automation	ROB-1
198	An ICT Supported Holistic Approach for Qualitative and Quantitative Energy Efficiency Evaluation in Manufacturing Company	EEM-1
200	The Multiple Faces of Mass Customization: Product Design, Process Design and Supply Chain Design	DMC-1
201	Energy Efficient Process Planning System - The ENEPLAN Project	GRA-1
202	Integrated model-based manufacturing for rapid product and process development	EII-1
203	Supplier Selection Criteria in Fractal Supply Network	SNS-1
204	Support to order management and collaborative production of customised goods for specific target groups	MSC-1
205	A Test-bed system for supply chain management incorporating reverse logistics	SNS-1
206	Building a conceptual model for analyzing sustainability projects aiming at technology transfer: a terminological approach	SIP-1
207	Review of implementation of FMEA methodology in the development of information systems	PAL-2
208	How energy recovery can reshape storage assignment in automated warehouses	EEM-2
209	Demand control loops for a global spare parts management	SER-1
210	State-of-the-art review on operational resilience: concept, scope and gaps	PRM-1
211	Sustainable Layout Planning Requirements by Integration of Discrete Event Simulation Analysis (DES) with Life Cycle Assessment (LCA)	PAL-1
212	Modeling new energy efficient production technologies in a supply chain context: A case from the dairy industry	EEM-1
213	Performance Evaluation in Sustainability Conscious Manufacturing Companies by Using TOPSIS Method	SUS-1
215	Modeling and simulation tool for sustainable MC supply chain design and assessment	MSC-1
216	Context Aware E-Support in E-Maintenance	AML-2
217	Modeling Green Fabs – A Queuing Theory Approach for Evaluating Energy Performance	EEM-2
218	The Value and Management Practices of Installed Base Information in Product-Service Systems	SER-1
219	An Adaptive Kanban and Production Capacity Control Mechanism	ADM-1
220	Using Behavioural Indicators to Assess Competences in a Sustainable Manufacturing Learning Scenario	AML-1
224	A concept for project manufacturing planning and control for engineer-to-order companies	PMO-1



Paper	ID Title	Session
225	Dynamic Manufacturing Networks Monitoring and Governance	MIO-2
226	Current state and future perspective research on the lean remanufacturing – focusing on the automotive industry.	ADM-1
228	Benefits and Risks in Dynamic Manufacturing Networks	MIO-2
229	An investigation of minimising total energy consumption, total energy cost and total tardiness based on rolling blackout policy in a job shop	EEM-1
230	Real-time production monitoring in large heterogeneous environments	EII-1
231	A Dyadic Study of Control in Buyer-Supplier Relationships	SNS-2
234	Discrete Part Manufacturing Energy Efficiency Improvements With Modelling and Simulation	GRA-1
235	Modeling and Presentation of Interdependencies between Key Performance Indicators for Visual Analysis Support	PRM-1
236	Analyzing Energy Consumption for Factory and Logistics Planning Processes	EEM-2
238	Do Consumers Select Food Products Based on Carbon Dioxide Emissions?	SMS-1
239	PSS Production Systems: a simulation approach for change management	SMS-1
240	What to offshore, what to produce at home? A methodology for systematic decision-making	MIO-2
241	Concept and Modelling of Closed-Loop Life Cycle Management for Lightweight Solution	PAL-2
242	Measurement, classification and evaluation of the innovation process and the identification of indicators regarding the assessment of the performance of a company's innovation zone	HFI-1
243	Intelligent Manufacturing Systems: Controlling Elastic Springback in Bending	ADM-2
244	The Effect of Temperature on Climacteric Fruit in Cold Chain	ICT-1
245	Energy implications in the single-vendor single-buyer integrated production inventory model	EEM-2
246	Manufacturing Service Ecosystems: Towards a new model to support service innovation based on Extended Products	SMS-2
247	Design Support based onto knowledge to increase product reliability and allow optimized abacus development	PAL-1
249	Simulation-based design of production networks for manufacturing of personalised products	MSC-1
250	The Internet of Experiences –Towards an Experience-Centred Innovation Approach	HFI-1
251	Multimodal processes rescheduling	ROB-1
252	An Extended Energy Value Stream Approach Applied on the Electronic Industry	EEM-1
253	Evaluation of Lean Thinking Based Production Control Systems: A Literature Survey	ADM-2
254	Ontology-based flexible multi agent systems design and deployment for vertical enterprise integration	EII-1
255	Reference model concept for structuring and representing performance indicators in manufacturing	PRM-1
257	New automated production system for the footwear industry and impact on production performance and on company organization	ROB-1
260	A Fuzzy Decision Support System for drawing directions from purchasing portfolio models	SNS-2
261	An MILP model for transportation planning in the FTL strategy to supply products with unbalanced demand in the JIT context: a case study	SNS-2
263	A parallelizable heuristic for solving the Generic Materials & Operations Planning in a Supply Chain Network: a case study from the automotive industry	GRA-1
265	Safety-guided design concerning standardization's requirements of mowing robots	ROB-1
266	Productivity measurement and improvements: A theoretical model and applications from the manufacturing industry	PRM-1



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268	Design of controlling for supporting continuous improvement and sustainability of manufacturing enterprises	SUS-1
269	An approach for energy saving in the compound feed production	EEM-3
270	Towards an harmonious and integrated management approach for lifecycle planning	PAL-1
271	Impact of the tasks of maintenance function in corporate sustainability: An empirical study on Brazilian steel mills	SIP-1
272	Analysing IT supported production control by relating Petri Nets and UML static structure diagrams	ICT-2
273	Applicability of Risk Process in Software Projects in Accordance with ISO 31000:2009	SIP-2
274	Development of a Business Process Matrix for structuring the implications of using configurators in an engineer-to-order environment	DMC-1
276	Profiling context awareness in mobile and cloud based engineering asset management	ETP-1
278	Multiagent System-based Simulation Method of Service Diffusion in Consumer Networks -- Application to repeatedly purchased plural services --	SMS-1
279	Factory modelling: combining energy modelling for buildings and production systems	GRA-1
280	Requirements analysis and definition for eco-manufacturing systems: the case of EMC2	GRA-1
283	Idiosyncratic behavior of globally distributed manufacturing	MIO-2
284	A Choice Experiment for Air Travel Services	SMS-1
285	Implementation of Sustainability in Ongoing Supply Chain Operations	SVC-1
286	Bridging the gap between energy management systems and machine tools – Embedded energy efficiency in production planning and control	EEM-3
287	Challenges of Measuring Revenue, Margin and Yield Optimization in Container Shipping	PMO-2
288	Sustainable Food Supply Chains: Towards a Framework for Waste Identification	SUS-1
289	Classification of Industrial Symbiosis Systems: A focus on materials and energy recovery	SUS-1
290	Improving the application of financial measures in Supply Chain Management	SNS-1
291	MANU Building – bringing together manufacturing automation and building automation	EII-1
293	Designing rotationally symmetric products for multi-variant mass production by using production-technical solution space	DMC-1
294	Framework for Lean Management in Industrial Services	SMS-2
295	Improving port terminal operations through information sharing	PMO-2
299	Total Cost of Ownership for Supply Chain Management: a case study in an OEM of the automotive industry	SNS-2
300	Formal specification of batch scheduling problems: A step toward integration and benchmarking	EII-1
301	Equipment's Prognostics using Logical Analysis of Data	PAL-1
302	Lean Product Development: Serious Game Design and Evaluation of the Learning Outcomes	AML-2
303	Perishable Inventory Control	PMO-2
305	Seamless access to sensor networks for enhanced manufacturing processes	ETP-1
306	Energy Efficient Production Planning : A Joint Cognitive Systems Approach	EEM-3
307	Proposing an Environmental Excellence Self-Assessment Model	MIO-1
310	Semantic Data Model for Operation and Maintenance of the Engineering Asset	ETP-1
312	Enabling information sharing in a port	ICT-1
313	Splitting or sharing resources at the process level: An automotive industry case study	ADM-2
314	Business Strategy and Innovativeness: Results from an Empirical Study	SUS-1



Paper	ID Title	Session
315	Assessing the impact of management concerns in e-business requirements planning in manufacturing organisations	PMO-3
319	MDE approach for PLM system reconfiguration	PAL-2
320	Learning PLM system with a Serious Game	AML-1
321	Embedding sustainability in business modelling through multi-stakeholder value innovation	SVC-1
323	Modular framework for reliable LCA-based indicators supporting supplier selection within complex supply chains	SVC-1
324	Optimisation of Flexible Assembly Systems for Electrical Motors	ADM-2
325	Designing and Implementing a Web Platform to Support SMEs in Collaborative Product Development	ICT-1
326	Improving the industrialization of a new product in an international production network: a case study from the machinery industry	MIO-1
327	A Stochastic Formulation of the Disassembly Line Balancing Problem	DMS-1
328	Designing an optimal-shape warehouse	PAL-1
330	Supporting the Design of a Management Accounting System of a Company Operating in the Gas Industry with Business Process Modeling	PMO-3
331	Beware of the robot: a highly interactive and immersive Virtual Reality training application in robotic manufacturing systems	AML-2
332	Using Internet of Things to improve eco-efficiency in Manufacturing: a review on available knowledge and a framework for IoT adoption	EEM-3
333	Multi-Objective Optimization of Product Life-Cycle Costs and Environmental Impacts	TPF-1
334	Opportunistic and Dynamic Reconfiguration of Vehicle Routing Problem Controlled by the Intelligent Product	SNS-2
335	Educational framework of Product Lifecycle Management issues for Master and PhD study programmes	AML-2
336	Innovating business model for services with storytelling	HFI-1
337	Proposal of an Assessment Model for New Product Development	TPF-1
340	Reference decision models in the medico-social service sector	SER-1
341	The Use of Serious games in the education of Engineers	AML-1
342	Integrating competence management into a coupled project-system design management	AML-2
344	From Mass Customization to Massive Customization in Construction Industry	DMC-1
346	Wireless Sensor Network Technologies for Condition Monitoring of Industrial Assets	ETP-1
348	Product-Service Systems modeling and simulation as a strategic diagnosis tool	SMS-2
349	Contribution to the development of a conceptual model of service and service delivery	SMS-2
350	Business Modelling for Sustainable Manufacturing	SVC-1
351	Base stock inventory systems with compound Poisson demand: case of partial lost sales	PMO-3
352	Improved Spare Parts Demand Management via Aggregation	PMO-3
353	A Critical Evaluation of RFID in Manufacturing	ETP-1
354	The role of IT for extended products' evolution into service ecosystems	SER-1
359	Flexible and Reconfigurable Layouts in Complex Manufacturing Systems	ADM-2
361	Manufacturing Service Innovation Ecosystem	SMS-2
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PROGRAM OVERVIEW

Date: Monday, 24/Sep/2012

7:30am - 9:00am	APR-2: APMS 2012 Registration Open – 2
9:00am - 11:00am	<p>OPS: Opening Plenary Session Chair: Christos Emmanouilidis APMS 2012 welcome introduction: Christos Emmanouilidis, ATHENA Research & Innovation Centre Marco Taisch, Politecnico di Milano, IFIP WG5.7 Chairman</p> <p>Keynote talk 1: "A business perspective for manufacturing research", Jochen Rode, SAP</p> <p>Salon des Roses Keynote talk 2: "ICT-driven innovation in the Factories of the Future", Rolf Riemenschneider, European Commission</p>
11:00am - 11:15am	COB-1: Coffee Break – 1
11:15am - 1:15pm	<p>EEM-1: Energy Efficient Manufacturing - 1 Session Chair: Christoph Herrmann Session Chair: Gökan May</p>
11:15am - 1:15pm	<p>ICT-1: ICT for Manufacturing, Services, Logistics and Production Management - 1 Session Chair: Bernard Grabot Session Chair: Heidi C. Dreyer</p>
11:15am - 1:15pm	<p>PAL-1: Product and Asset Lifecycle Management - 1 Session Chair: Sergio Cavalieri Session Chair: Diego D'Urso</p>
11:15am - 1:15pm	<p>SNS-1: Supply Networks and Supply Chain Management - 1 Session Chair: David Sparling</p>
1:15pm - 2:15pm	LUN-1: Lunch Break – 1
2:15pm - 3:00pm	<p>PS2: Plenary Session 2 Chair: Marco Taisch</p> <p>Salon des Roses Keynote talk 3: "Sustainable Manufacturing: towards a competitive industrial base in Europe", Filip Geerts, CECIMO</p>



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3:00pm - 5:00pm

DMC-1: Design for Mass-Customized Products and Services - 1

R1-NAUSICA-A

Session Chair: **Mahnoosh Zebardast**

Session Chair: **Dimitris Mourtzis**

3:00pm - 5:00pm

IPS: Industry Panel Session

Session Chair: **Gregor Alexander von Cieminski**

Session Chair: **Hermann Loedding**

Panel presentations:

Wolfgang Menzel, Continental

"Leadership in Electronics Operations @Continental"

Volker Stich, RWTH Aachen

"Integrating industrial needs with academic perspectives - concept and realization of the RWTH Aachen High Tech Campus"

Panel presentations:

Paul Schönsleben, ETH

Dan Nagy, IMS

Filip Geerts, CECIMO

Salon des Roses

3:00pm - 5:00pm

MIO-1: Managing International Operations - 1

R2-NAUSICA-B

Session Chair: **Donatella Corti**

Session Chair: **Torbjoern H. Netland**

3:00pm - 5:00pm

SNS-2: Supply Networks and Supply Chain Management - 2

R3-NEFELI-A

Session Chair: **Shigeki Umeda**

5:00pm - 5:20pm

COB-2: Coffee Break - 2

5:20pm - 7:00pm

EEM-2: Energy Efficient Manufacturing - 2

R1-NAUSICA-A

Session Chair: **Mohsen A Jafari**

Session Chair: **Vittaldas V Prabhu**

5:20pm - 7:00pm

MIO-2: Managing International Operations - 2

R2-NAUSICA-B

Session Chair: **Ming Lim**

Session Chair: **Stanislaw Strzelczak**

5:20pm - 7:00pm

SER-1: Services-1

R3-NEFELI-A

Session Chair: **Klaus-Dieter Thoben**

5:20pm - 7:00pm

TPF-1: Towards the Products of the Future - 1

R4-NEFELI-B

Session Chair: **Sergio Terzi**

Session Chair: **Masaru Nakano**

8:00pm - 10:00pm

AWR: APMS 2012 Welcome Reception



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Date: Tuesday, 25/Sep/2012

7:30am - 8:30am **APR-3: APMS 2012 Registration Open - 3**

8:30am - 10:15am **PS3: Plenary Session 3**
Chair: **Dimitris Kiritsis**
Keynote talk 4:
"ICT Integration challenges in manufacturing: from the device to the enterprise level", Thilo Sauter, Austrian Academy of Sciences

Salon des Roses

Keynote talk 5:
"The IMS global platform services for manufacturing research and innovation", Dan Nagy, IMS

10:15am - 10:30am **COB-3: Coffee Break - 3**

10:30am - 12:50pm **ETP-1: Emerging Technologies in Product and Asset Lifecycle Management - 1**

R3-NEFELI-A

Session Chair: **J.C. Wortmann**
Session Chair: **Chi-Hyuck Jun**

10:30am - 12:50pm **GRA-1: Global Research Activities in Energy and Resource Efficient Manufacturing - 1**

R1-NAUSICA-A

Session Chair: **Andrea Gentili**
Session Chair: **Bojan Stahl**

10:30am - 12:50pm **MSC-1: Manufacturing and Supply Chain in a Mass Customization Environment - 1**

R2-NAUSICA-B

Session Chair: **Golboo Pourabdollahian**
Session Chair: **Richard Lee Storch**

10:30am - 12:50pm **SMS-1: Service Manufacturing Systems - 1**

R4-NEFELI-B

Session Chair: **Toshiya Kaihara**
Session Chair: **Nobutada Fujii**

12:50pm - 2:00pm **LUN-2: Lunch Break - 2**

2:00pm - 3:40pm **DMS-1: Design of Manufacturing Systems - 1**

R3-NEFELI-A

Session Chair: **Alexandre Dolgui**
Session Chair: **Olga Battaïa**

2:00pm - 3:40pm **EEM-3: Energy Efficient Manufacturing - 3**

R1-NAUSICA-A

Session Chair: **Juhani Heilala**



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2:00pm - 3:40pm

PMO-1: Production Management, Operations & Logistics - 1

R2-NAUSICA-B

Session Chair: **Eiji Arai**
Session Chair: **Jan Frick**

2:00pm - 3:40pm

SMS-2: Service Manufacturing Systems - 2

R4-NEFELI-B

Session Chair: **Bruno Vallespir**

3:40pm - 4:00pm

COB-4: Coffee Break - 4

4:00pm - 5:30pm

PS4: Plenary Session 4

Chair: **Marco Garetti**

Keynote talk 6:

"Energy management operations in shipping industry", Takis Varelas, DANAOS

Salon des Roses

Keynote talk 7:

"The FoF PPP call in WP2013 and future opportunities for manufacturing R&I in Horizon2020", Andrea Gentili, European Commission

5:30pm - 7:10pm

ADM-1: Advanced Design, Manufacturing and Production Management - 1

R3-NEFELI-A

Session Chair: **Katsuhiko Takahashi**
Session Chair: **Lenka Landryova**

5:30pm - 7:10pm

PMO-2: Production Management, Operations & Logistics - 2

R2-NAUSICA-B

Session Chair: **Peter Nielsen**
Session Chair: **Hans-Henrik Hvolby**

5:30pm - 7:10pm

PRM-1: Performance and Risk Management - 1

R4-NEFELI-B

Session Chair: **Peter Almström**
Session Chair: **Stefan Hesse**

5:30pm - 7:10pm

SVC-1: Sustainable Value Creation in Manufacturing - 1

R1-NAUSICA-A

Session Chair: **Marco Macchi**
Session Chair: **Steve Evans**

8:00pm - 11:00pm

ACD: APMS 2012 Conference Dinner
Rodas Palace Hotel



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Date: Wednesday, 26/Sep/2012

8:00am - 8:30am APR-4: APMS 2012 Registration Open - 4

8:30am - 10:50am ADM-2: Advanced Design, Manufacturing and Production Management - 2

R2-NAUSICA-B
Session Chair: **Hajime Mizuyama**
Session Chair: **Marco Semini**

8:30am - 10:50am HFI-1: Human Factors, Innovation, Quality and Knowledge Management - 1

R4-NEFELI-B
Session Chair: **Vidosav D. Majstorovic**

8:30am - 10:50am PAL-2: Product and Asset Lifecycle Management - 2

R1-NAUSICA-A
Session Chair: **Agostino Villa**

8:30am - 10:50am SUS-1: Business Strategies, Models and Sustainability - 1

R3-NEFELI-A
Session Chair: **Vito Albino**
Session Chair: **Gunduz Ulusoy**

10:50am - 11:10am COB-5: Coffee Break - 5

11:10am - 1:10pm AML-1: Application of Modern Learning Technologies in Manufacturing and Production Systems - 1

R1-NAUSICA-A
Session Chair: **Borzoo Pourabdollahian**
Session Chair: **Philippe Pernelle**

11:10am - 1:10pm EII-1: Enterprise Integration and Interoperability - 1

R2-NAUSICA-B
Session Chair: **Athanasios P. Kalogeras**
Session Chair: **Gabriela Patricia Henning**

11:10am - 1:10pm ROB-1: Robotics in Manufacturing

R4-NEFELI-B
Session Chair: **Rosanna Fornasiero**
Session Chair: **Kenn Steger-Jensen**

11:10am - 1:10pm SIP-1: Sustainable innovations in products and services in developing countries - 1

R3-NEFELI-A
Session Chair: **Irenilza Nääs**

1:10pm - 2:20pm LUN-3: Lunch Break - 3

2:20pm - 4:00pm AML-2: Application of Modern Learning Technologies in Manufacturing and Production Systems - 2

R1-NAUSICA-A
Session Chair: **Julien Le Duigou**



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2:20pm - 4:00pm

ICT-2: ICT for Manufacturing, Services, Logistics and Production Management - 2

R2-NAUSICA-B

Session Chair: **Henk Jan Pels**

Session Chair: **Jinwoo Park**

2:20pm - 4:00pm

PMO-3: Production Management, Operations & Logistics - 3

R4-NEFELI-B

Session Chair: **Nikolaos A. Panayiotou**

Session Chair: **Ilias Tatsiopoulos**

2:20pm - 4:00pm

SIP-2: Sustainable innovations in products and services in developing countries - 2

R3-NEFELI-A

Session Chair: **Pedro Luiz de Oliveira Costa Neto**

4:00pm - 4:15pm

COB-6: Coffee Break - 6

4:15pm - 5:00pm

CS: Closing Session

R1-NAUSICA-A



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DETAILED PROGRAM

Date: Monday, 24/Sep/2012

OPS: Opening Plenary Session

Time: Monday, 24/Sep/2012: 09:00am - 11:00am · Location: Salon de Roses

Session Chair: Christos Emmanouilidis

OPS

PMS 2012 Welcome introduction:

Christos Emmanouilidis, ATHENA Research & Innovation Centre

Marco Taisch, Politecnico di Milano, IFIP WG5.7 Chairman

Keynote talk 1:

"A business perspective for manufacturing research",

Jochen Rode, SAP

Keynote talk 2:

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

Rolf Riemenschneider, European Commission

EEM-1: Energy Efficient Manufacturing - 1

Time: Monday, 24/Sep/2012: 11:15am - 1:15pm · Location: R1-NAUSICA-A

Session Chair: Christoph Herrmann

Session Chair: Gökan May

EEM-1: 1

Toward Energy Efficient Manufacturing: A Study on Practices and Viewpoint of the Industry

Gökan May, Marco Taisch, Bojan Stahl, Vahid Sadr

Politecnico di Milano, Italy

EEM-1: 2

Proposition of an Energy Product Model Integrating Energy-Efficient Production Planning and a communication Framework for the Energy Supply Chain to Improve the Energy Management of Producing Companies

Volker Stich, **Sebastian Kropp**, Ulrich Brandenburg, Daniel Batalla-Navarro, Emmanuil

Ntzemos, **Jorge Sunyer**

FIR at RWTH Aachen University, Germany

EEM-1: 3

An Extended Energy Value Stream Approach Applied on the Electronic Industry

Gerrit Bogdanski, **Malte Schönemann**, **Sebastian Thiede**, **Stefan Andrew**, **Christoph Herrmann**

Technische Universität Braunschweig, Germany



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EEM-1: 4

An ICT Supported Holistic Approach for Qualitative and Quantitative Energy Efficiency Evaluation in Manufacturing Company

Hendro Wicaksono¹, Kiril Aleksandrov¹, Sven Rogalski², Jivka Ovtcharova²

¹ISPE/PDE, FZI Research Center for Information Technology, Karlsruhe, Germany; ²Institute for Information Management in Engineering, Karlsruhe Institute of Technology, Germany

EEM-1: 5

An investigation of minimising total energy consumption, total energy cost and total tardiness based on rolling blackout policy in a job shop

Ying Liu¹, Niels Lohse¹, Sanja Petrovic¹, Nabil Gindy²

¹University of Nottingham, United Kingdom; ²University of Nottingham, Ningbo, China

EEM-1: 6

Modeling new energy efficient production technologies in a supply chain context: A case from the dairy industry

Bryndís Stefánsdóttir, Martin Grunow

TUM School of Management, Technical University of Munich, Munich, Germany



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ICT-1: ICT for Manufacturing, Services, Logistics and Production Management - 1

Time: Monday, 24/Sep/2012: 11:15am - 1:15pm · Location: R4-NEFELI-B

Session Chair: **Bernard Grabot**

Session Chair: **Heidi C. Dreyer**

ICT-1: 1

Investigating the Impact of Information and Communications Technology in Collaborative Planning, Forecasting and Replenishment: a Case Study of an Advanced Planning System in the Norwegian Pharmacy Industry

Maria Kollberg Thomassen¹, Heidi Dreyer², Patrik Jonsson³

¹SINTEF Technology and Society, Department of Industrial Management, Trondheim, Norway;

²Norwegian University of Science and Technology, Department of Production and Quality

Engineering, Trondheim, Norway; ³Chalmers University, Department of Technology Management and Economics, Gothenburg, Sweden

ICT-1: 2

Introducing "2.0" functionalities in an ERP

Bernard Grabot¹, Raymond Houé¹, Fabien Lauroua², Anne Mayère³

¹ENIT, France; ²SAP; ³University of Toulouse

ICT-1: 3

The Effect of Temperature on Climacteric Fruit in Cold Chain

YoonSeok Chang¹, Myo Min Aung¹, Charalampos Makatsoris²

¹Korea Aerospace University, Korea, Republic of (South Korea); ²Brunel university

ICT-1: 4

INTEGRATION OF REVERSE ENGINEERING TECHNIQUES AND VIRTUAL PRODUCTION IN THE DEVELOPMENT AND DESIGN OF HYDROTURBINES

Radomir Radiša¹, Srećko Manasijević¹, Vladimir Kvrčić¹, Vesna Mandić²

¹LOLA institute, Serbia; ²University of Kragujevac Mechanical Engineering Faculty

ICT-1: 5

Enabling information sharing in a port

Peter Bjerg Olesen, Hans-Henrik Hvolby, Iskra Dukovska-Popovska

Aalborg University, Denmark

ICT-1: 6

Designing and Implementing a Web Platform to Support SMEs in Collaborative Product Development

Marco Formentini, Michela Lolli, Alberto Felice De Toni

Università degli Studi di Udine, Italy



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PAL-1: Product and Asset Lifecycle Management - 1

Time: Monday, 24/Sep/2012: 11:15am - 1:15pm · *Location:* R2-NAUSICA-B

Session Chair: **Sergio Cavalieri**

Session Chair: **Diego D'Urso**

PAL-1: 1

Fourth Party Energy Provider for the Building Value Chain

Stefano Ierace, Sergio Cavalieri, Nicola Pedrali

UNIVERSITÀ degli STUDI di BERGAMO, Italy

PAL-1: 2

Towards an harmonious and integrated management approach for lifecycle planning

Frédéric Demoly, Samuel Deniaud, Samuel Gomes

Université de Technologie de Belfort-Montbéliard (UTBM), France

PAL-1: 3

Design Support based onto knowledge to increase product reliability and allow optimized abacus development

Jeremy Boxberger^{1,2}, Daniel Schlegel², Nadhir Lebaal², Samuel Gomes²

¹Zurfluh-Feller, France; ²UTBM laboratoire M3M, France

PAL-1: 4

Equipment's Prognostics using Logical Analysis of Data

Alireza Ghasemi¹, Sasan Esmaeili¹, Soumaya Yacout²

¹Dalhousie University, Halifax, Canada; ²cole Polytechnique de Montréal, Montreal, Canada

PAL-1: 5

Designing an optimal-shape warehouse

Diego D'Urso, Lucio Compagno, Natalia Trapani

Università degli Studi di Catania, Italy

PAL-1: 6

Sustainable Layout Planning Requirements by Integration of Discrete Event Simulation Analysis (DES) with Life Cycle Assessment (LCA)

Victor Emmanuel de Oliveira Gomes¹, Durval João De Barba Jr.¹, Jefferson de Oliveira Gomes¹, Karl-Heinrich Grote², Christiane Beyer³

¹ITA - Institute of Aeronautical Technology, Brazil; ²OvG - Universität Magdeburg, Germany;

³California State University Long Beach, USA



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SNS-1: Supply Networks and Supply Chain Management - 1

Time: Monday, 24/Sep/2012: 11:15am - 1:15pm · *Location:* R3-NEFELI-A

Session Chair: **David Sparling**

SNS-1: 1

Greening manufacturing supply chains – Introducing bio-based products into manufacturing supply chains

David Sparling¹, Fred Pries², Erin Cheney¹

¹Richard Ivey School of Business, Canada; ²University of Guelph, Canada

SNS-1: 2

Improving the application of financial measures in Supply Chain Management

Felix Friemann¹, Matthias Wandfluh¹, Robert Alard², Paul Schönsleben¹

¹ETH Zurich, Switzerland; ²University of Applied Sciences and Arts Northwestern, Switzerland

SNS-1: 3

Chinese SME's Sourcing Practices and their Impact on Western Suppliers

Matthias Wandfluh, Christian Schneider, Paul Schönsleben

ETH Zurich, Switzerland

SNS-1: 4

Game theory based multi-attribute negotiation between MA and MSAs

Fang Yu, Toshiya Kaihara, Nobutada Fujii

kobe university, Japan

SNS-1: 5

Supplier Selection Criteria in Fractal Supply Network

Sameh Saad, Julian Aririguzo, Terrence Perera

Sheffield Hallam University, United Kingdom

SNS-1: 6

A Test-bed system for supply chain management incorporating reverse logistics

Shigeki Umeda

Musashi University, Japan

PS-2: Plenary Session - 2

Time: Monday, 24/Sep/2012: 14:15am - 15:00am · *Location:* Salon de Roses

Session Chair: **Marco Taisch**

PS-2

Keynote talk 3:

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

Filip Geerts, CECIMO



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IPS-: Industry Panel Session

Time: Monday, 24/Sep/2012: 3:00pm - 5:00pm · *Location:* Salon de Roses

Session Chair: **Gregor Alexander von Cieminski**

Session Chair: **Hermann Loedding**

IPS

Panel presentations:

Wolfgang Menzel, Continental

"Leadership in Electronics Operations @Continental"

Volker Stich, RWTH Aachen

"Integrating industrial needs with academic perspectives - concept and realization of the RWTH Aachen High Tech Campus"

Panel discussion

Paul Schönsleben, ETH

Dan Nagy, IMS

Filip Geerts, CECIMO

Session Objective

The aim of this panel session is to give APMS participants from industry an opportunity to share their thoughts about this year's conference theme and to foster the exchange between academia and industrial practice. Leading experts from Industry and Academia will offer their viewpoints in a lively panel poised to become a springboard for stimulating discussions. The discussion with the panel is open to:

- i) practitioners interested in the exchange with academia and
- ii) all academic colleagues who would like to share the experiences gained in projects conducted with industrial partners.

While the topics covered do not differ from those of the "academic" sessions of APMS 2012, the Industry Session aims to give particular insight into

- the practical challenges production managers face in industry,
- good practices of Competitive Manufacturing,
- problems remaining unsolved in a practical context and how academia can contribute to solving these practical problems.

Particularly welcome are contributions that also share "bad practices" and "lessons learned" with us. The session aims to pinpoint differentiating factors between those academic ideas offering excellent implementation prospects and those of limited practical relevance. The ultimate aim is to identify key elements of success in the process of linking research to industry.



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Session Schedule

15.00-15.10: Introduction by Hermann Lödding and Gregor von Cieminski

15.10-16.00: Presentations by Dr. Wolfgang Menzel and Prof. Volker Stich (25 minutes each)

16.00-16.50: Panel discussion including:

Personal introduction of panel members and short positioning statements

- Volker Stich

- Filip Geerts

- Paul Schönsleben

Guided Discussion among panel members

Open discussion between panel and audience

16.50-17.00: Closing of the session (Lödding / von Cieminski)

Session chairs

Prof. Hermann Lödding,

Institute of Production Management and Technology (IPMT),
Harburg / Hamburg University of Technology

Dr Gregor von Cieminski,

ZF Group, ZF Friedrichshafen AG

Panel presentations

Dr.-Ing. Wolfgang Menzel

Vice President CEP Operations

Company: Continental Automotive GmbH

Title: "Leadership in Electronics Operations @Continental"

Prof. Dr.-Ing. Volker Stich

Managing Director

Institute: FIR - Research Institute for Operations Management at RWTH Aachen

Title: "Integrating industrial needs with academic perspectives - concept and realization of the RWTH Aachen High Tech Campus"

Panel discussion

Prof. Paul Schönsleben

Head of Department of Management, Technology, and Economics,
BWI Center for Industrial Management, ETH Zurich, Switzerland

Dan Nagy

Managing Director

IMS Inter-Regional Secretariat, Switzerland

Filip Geerts

General Director, CECIMO-European Association of the Machine Tool Industries

Chairman of the EC's Working Group on Advanced Manufacturing Systems

(Key Enabling Technologies – KET AMS), Brussels, Belgium



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DMC-1: Design for Mass-Customized Products and Services - 1

Time: Monday, 24/Sep/2012: 3:00pm - 5:00pm · *Location:* R1-NAUSICA-A

Session Chair: **Mahnoosh Zebardast Donatella Corti**

Session Chair: **Dimitris Mourtzis**

DMC-1: 1

The Multiple Faces of Mass Customization: Product Design, Process Design and Supply Chain Design

Nico J. Vandaele¹, Catherine J. Decouttere^{1,2}

¹Kuleuven, Belgium; ²FlandersInShape

DMC-1: 2

Modularization - enabler for shop floor involvement in improvement and development

Bjørnar Henriksen¹, Lars Skjelstad¹, Eva Amdahl Seim², Carl Christian Røstad¹

¹SINTEF, Norway; ²Norwegian University of Science and Technology, Norway

DMC-1: 3

Comparison of criticality of configuration choices for market price and product cost

Peter Nielsen, Thomas Ditlev Brunoe

Aalborg University, Denmark

DMC-1: 4

Development of a Business Process Matrix for structuring the implications of using configurators in an engineer-to-order environment

Olga Willner, Manuel Rippel, Matthias Wandfluh, Paul Schönsleben

ETH Zurich, Switzerland

DMC-1: 5

Designing rotationally symmetric products for multi-variant mass production by using production-technical solution space

Günther Schuh, Till Potente, Stephan Schmitz

Werkzeugmaschinenlabor WZL der RWTH Aachen, Germany

DMC-1: 6

From Mass Customization to Massive Customization in Construction Industry

Ingrid Paoletti, Roberto Stefano Naboni

Politecnico di Milano, Italy



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MIO-1: Managing International Operations - 1

Time: Monday, 24/Sep/2012: 3:00pm - 5:00pm · *Location:* R2-NAUSICA-B

Session Chair: **Donatella Corti**

Session Chair: **Torbjoern H. Netland**

MIO-1: 1

Improving the industrialization of a new product in an international production network: a case study from the machinery industry

Donatella Corti, Saransh Choudhury

Politecnico di Milano, Italy

MIO-1: 2

The Insignificant Role of National Culture in Global Lean Programmes

Torbjoern H. Netland¹, Miguel Mediavilla², Ander Errasti³

¹Norwegian University of Science and Technology, Georgetown University; ²UNED University;

³Tecnun University of Navarra

MIO-1: 3

Methodology to identify SMEs needs of internationalised collaborative non-hierarchical networks

Beatriz Andrés, Raul Poler

Research Centre on Production Management and Engineering (CIGIP), Spain

MIO-1: 4

Proposing an Environmental Excellence Self-Assessment Model

Peter Meulengracht Jensen, Johansen John, Brian Vejrum Waehrens

Aalborg University, Denmark

MIO-1: 5

Framework for Improving the Design and Configuration Process of a Global Production and Logistic Network

Sandra Martinez, Ander Errasti

Tecnun, Spain

MIO-1: 6

Creating an Innovative Culture in a Global Environment

Dan L. Shunk

Arizona State University, United States of America



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SNS-2: Supply Networks and Supply Chain Management - 2

Time: Monday, 24/Sep/2012: 3:00pm - 5:00pm · Location: R3-NEFELI-A

Session Chair: **Shigeki Umeda**

SNS-2: 1

A Dyadic Study of Control in Buyer-Supplier Relationships

Anna Aminoff, Kari Tanskanen

Aalto University, School of Science

SNS-2: 2

A Fuzzy Decision Support System for drawing directions from purchasing portfolio models

Daide Aloini, Riccardo Dulmin, Valeria Mininno

University of Pisa, Italy

SNS-2: 3

An MILP model for transportation planning in the FTL strategy to supply products with unbalanced demand in the JIT context: a case study

Julien Maheut¹, Jose Pedro Garcia-Sabater²

¹Universidad Politecnica de Valencia, Spain; ²Universidad Politecnica de Valencia, Spain

SNS-2: 4

Total Cost of Ownership for Supply Chain Management: a case study in an OEM of the automotive industry

Paulo Afonso

University of Minho, Portugal

SNS-2: 5

Model for Quality Appraisal in Supply Networks

João Gilberto Mendes dos Reis^{1,2}, Pedro Luiz de Oliveira Costa Neto¹

¹Federal University of Grande Dourados, Brazil (UFGD); ²Paulista University, Brazil (UNIP)

SNS-2: 6

Opportunistic and Dynamic Reconfiguration of Vehicle Routing Problem Controlled by the Intelligent Product

Rodrigue Tchapnga Takoudjou, Jean-Christophe Deschamps, rémy Dupas

University of Bordeaux, France



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EEM-2: Energy Efficient Manufacturing - 2

Time: Monday, 24/Sep/2012: 5:20pm - 7:00pm · *Location:* R1-NAUSICA-A

Session Chair: **Mohsen A Jafari**

Session Chair: **Vittaladas V Prabhu**

EEM-2: 1

Energy implications in the single-vendor single-buyer integrated production inventory model

Simone Zanoni¹, Laura Bettoni¹, Christoph Glock²

¹University of Brescia, Italy; ²Technische Universität Darmstadt, Germany

EEM-2: 2

Analyzing Energy Consumption for Factory and Logistics Planning Processes

Egon Müller, Hendrik Hopf, Manuela Krones

Chemnitz University of Technology, Department of Factory Planning and Factory Management,
Germany

EEM-2: 3

Modeling Green Fabs – A Queuing Theory Approach for Evaluating Energy Performance

Vittaladas V Prabhu, Hyun Woo Jeon

Pennsylvania State University, United States of America

EEM-2: 4

Elasticity Measures to Quantify Demand Management in Production Lines

Yan Lu¹, Dong Wei¹, HALIL IBRAHIM GULTEKIN¹, Niloofar Salahi², Mohsen Jafari²

¹Siemens Corporate Research, United States of America; ²Dept. of Industrial & Systems Engineering
Rutgers University

EEM-2: 4

How energy recovery can reshape storage assignment in automated warehouses

Antonella Meneghetti, Luca Monti

University of Udine, Italy

MIO-2: Managing International Operations - 2

Time: Monday, 24/Sep/2012: 5:20pm - 7:00pm · *Location:* R2-NAUSICA-B

Session Chair: **Ming Lim**

Session Chair: **Stanislaw Strzelczak**

MIO-2: 1

Idiosyncratic behavior of globally distributed manufacturing

Stanislaw Strzelczak

Warsaw University of Technology, Poland

MIO-2: 2

Optimize Resource Utilization at Multi-site Facilities with Agent Technology

Ming Lim

Aston University, United Kingdom



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MIO-2: 3

What to offshore, what to produce at home? A methodology for systematic decision-making

Marco Semini, Borge Sjobakk, Erlend Alfnes

SINTEF, Norway

MIO-2: 4

Dynamic Manufacturing Networks Monitoring and Governance

Panagiotis Kokkinakos, Ourania Markaki, Dimitrios Panopoulos, Sotirios Koussouris, Dimitrios Askounis

National Technical University of Athens, Greece

MIO-2: 5

Benefits and Risks in Dynamic Manufacturing Networks

Ourania Markaki, Panagiotis Kokkinakos, Dimitrios Panopoulos, Sotirios Koussouris, Dimitrios Askounis

National Technical University of Athens, Greece

SER-1: Services-1

Time: Monday, 24/Sep/2012: 5:20pm - 7:00pm · Location: R3-NEFELI-A

Session Chair: Klaus-Dieter Thoben

SER-1: 1

The role of IT for extended products' evolution into service ecosystems

Klaus-Dieter Thoben¹, J.C. Wortmann²

¹BIBA - Bremer Institut für Produktion und Logistik, Germany; ²University of Groningen, The Netherlands

SER-1: 2

The Value and Management Practices of Installed Base Information in Product-Service Systems

Nicola Saccani¹, Andrea Alghisi¹, Jukka Borgman²

¹University of Brescia, Italy; ²Aalto University, Finland

SER-1: 3

Reference decision models in the medico-social service sector

Henri Kromm¹, Yves Ducq²

¹Acthan Expertises, France; ²Université Bordeaux 1, France

SER-1: 4

Service model for the service configuration

Jose Angel Lakunza, Juan Carlos Astiazaran, Maria Elejoste

Ikerlan, Spain

SER-1: 5

Demand control loops for a global spare parts management

Uwe Dombrowski¹, Sebastian Weckenborg¹, Michael Mederer²

¹Technische Universität Braunschweig, Germany; ²m²hycon, Germany



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TPF-1: Towards the Products of the Future - 1

Time: Monday, 24/Sep/2012: 5:20pm - 7:00pm · *Location:* R4-NEFELI-B

Session Chair: **Sergio Terzi**

Session Chair: **Masaru Nakano**

TPF-1: 1

Multi-Objective Optimization of Product Life-Cycle Costs and Environmental Impacts

Daniele Cerri², Marco Taisch², Sergio Terzi¹

¹University of Bergamo, Italy; ²Politecnico di Milano, Italy

TPF-1: 2

Design of a Taxation System to Promote Electric Vehicles in Singapore

Seng Tat Chua, Masaru Nakano

Keio University, Japan

TPF-1: 3

Design of Generalized Ontology for Manufacturing Product Lifecycle Applications

Apostolos Perdikakis¹, Ana Milicic¹, Soumaya El Kadiri¹, Dimitris Kiritsis¹, Dimitris Alexandrou², Kostas Pardalis²

¹EPFL, Switzerland; ²Ubitech, Greece

TPF-1: 4

Proposal of an Assessment Model for New Product Development

Monica Rossi¹, Sergio Terzi², Marco Garetti¹

¹Politecnico di Milano, Italy; ²Università degli studi di Bergamo, Italy

TPF-1: 5

Knowledge Management in Set Based Lean Product Development Process

Robert Furian¹, Frank von Lacroix¹, Dragan Stokic², Ana Correia², Cristina Grama², Stefan Faltus², Maksim Maksimovic³, Karl-Heinrich Grote⁴, Christiane Beyer⁵

¹Volkswagen AG, Germany; ²Institut für angewandte Systemtechnik Bremen, Germany; ³Cranfield University, United Kingdom; ⁴Otto-von-Guericke-Universität Magdeburg, Germany; ⁵California State University, Long Beach, USA



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Date: Tuesday, 25/Sep/2012

PS-3: Plenary Session 3

Time: Tuesday, 25/Sep/2012: 09:00am - 11:00am · *Location:* Salon de Roses

Session Chair: **Dimitris Kiritsis**

PS-3

Keynote talk 4:

" ICT Integration challenges in manufacturing: from the device to the enterprise level",
Thilo Sauter, Austrian Academy of Sciences

Keynote talk 5:

"The IMS global platform services for manufacturing research and innovation ",
Dan Nagy, IMS

ETP-1: Emerging Technologies in Product and Asset Lifecycle Management - 1

Time: Tuesday, 25/Sep/2012: 10:30am - 12:50pm · *Location:* R3-NEFELI-A

Session Chair: **J.C. Wortmann**

Session Chair: **Chi-Hyuck Jun**

ETP-1: 1

Analysis of Manufacturing Process Sequences, using Machine Learning on Intermediate Product States (as Process Proxy Data)

Thorsten Wuest¹, Christopher Irgens², Klaus-Dieter Thoben¹

¹Bremer Institut für Produktion und Logistik GmbH, Germany; ²University of Strathclyde, UK

ETP-1: 2

A Critical Evaluation of RFID in Manufacturing

Wei Zhou^{2,3}, Selwyn Piramuthu^{1,3}

¹University of Florida, United States of America; ²ESCP Europe, France; ³RFID European Lab, France

ETP-1: 3

Seamless access to sensor networks for enhanced manufacturing processes

Kostas Kalaboukas¹, Borislav Jerabek², Rok Lah²

¹Singular Logic SA, Greece; ²Gorenje DD, Slovenia

ETP-1: 4

Wireless Sensor Network Technologies for Condition Monitoring of Industrial Assets

Spilios Giannoulis¹, Christos Koulamas¹, Christos Emmanouilidis², Petros Pistofidis², Dimitris Karampatzakis²

¹ISI / "ATHENA" R.C., Greece; ²ILSP / "ATHENA" R.C., Greece



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ETP-1: 5

Semantic Data Model for Operation and Maintenance of the Engineering Asset

Andreas Koukias, Dražen Nadoveza, Dimitris Kiritsis

École Polytechnique Fédérale de Lausanne (EPFL), Switzerland

ETP-1: 6

Improving Tree-based Classification Rules Using a Particle Swarm Optimization

Chi-Hyuck Jun, Yun-Ju Cho, Hyeseon Lee

POSTECH, Korea, Republic of (South Korea)

ETP-1: 7

Profiling context awareness in mobile and cloud based engineering asset management

Petros Pistofidis, Christos Emmanouilidis

ATHENA Research & Innovation Centre, Greece

GRA-1: Global Research Activities in Energy and Resource Efficient Manufacturing - 1

Time: Tuesday, 25/Sep/2012: 10:30am - 12:50pm · *Location:* R1-NAUSICA-A

Session Chair: **Andrea Gentili**

Session Chair: **Bojan Stahl**

GRA-1: 1

Requirements analysis and definition for eco-manufacturing systems: the case of EMC2

Bojan Stahl, Marco Taisch

Politecnico di Milano, Italy

GRA-1: 2

Factory modelling: combining energy modelling for buildings and production systems

Peter Ball¹, Melanie Despeisse¹, Steve Evans², Rick Greenough³, Steve Hope⁴, Ruth Kerrigan⁵, Andrew Levers⁶, Peter Lunt⁶, Mike Oates³, Richard Quincey⁵, Li Shao³, Timothy Waltniel⁴, Craig Wheatley⁵, Andrew Wright³

¹Cranfield University, United Kingdom; ²Cambridge University, United Kingdom; ³De Montfort University, United Kingdom; ⁴Toyota Motor Europe, Belgium; ⁵IES Ltd, United Kingdom; ⁶Airbus Operations Ltd, United Kingdom



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GRA-1: 3

Energy Efficient Process Planning System - The ENEPLAN Project

John Pandremenos¹, Paolo Calefati², Apostolos Fysikopoulos¹, George Chrissolouris¹

¹Laboratory for Manufacturing Systems and Automation, University of Patras, Rio, Patras 26500, Greece; ²PRIMA INDUSTRIE S.p.A., Via Antonelli 32, 10097 Collegno (TO), Italy

GRA-1: 4

Energy efficiency optimisation in heat treatment process design

Inigo Mendikoa¹, Mikel Sorli¹, Alberto Armijo¹, Laura Garcia¹, Luis Erasquin², Mario Insunza³, Jon Bilbao³, Hakan Friden⁴, Anders Björk⁴, Linus Bergfors⁴, Romualdas Skema⁵, Robertas Alzbutas⁵

¹TECNALIA Research & Innovation, Spain; ²Fundiciones del Estanda; ³Sisteplant S.L.; ⁴IVL Svenska Miljöinsti-Tutet AB; ⁵Lietuvos Energetikos Institutas

GRA-1: 5

Discrete Part Manufacturing Energy Efficiency Improvements With Modelling and Simulation

Juhani Heilala¹, Marja Paju¹, Jari Montonen¹, Reino Ruusu¹, Mikel Sorli², Alberto Armijo², Pablo Bermell-Garcia³, Simon Astwood³, Santiago Quintana³

¹VTT, Finland; ²Tecnalia, Spain; ³EADS Innovation Works, UK

GRA-1: 6

Evaluation and Calculation of Dynamics in Environmental Impact Assessment

Björn Johansson, Jon Andersson, Erik Lindskog, Jonatan Berglund, Anders Skoogh

Production Systems, Chalmers University of Technology, Sweden

GRA-1: 7

A parallelizable heuristic for solving the Generic Materials & Operations Planning in a Supply Chain Network: a case study from the automotive industry

Julien Maheut¹, Jose Pedro Garcia-Sabater²

¹Universidad Politecnica de Valencia, Spain; ²Universidad Politecnica de Valencia, Spain



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MSC-1: Manufacturing and Supply Chain in a Mass Customization Environment - 1

Time: Tuesday, 25/Sep/2012: 10:30am - 12:50pm · *Location:* R2-NAUSICA-B

Session Chair: **Golboo Pourabdollahian**

Session Chair: **Richard Lee Storch**

MSC-1: 1

Modeling a Large Scale Production System Considering Mass Customization and Learning Curve

KuoWei Chen, Richard Lee Storch

University of Washington, United States of America

MSC-1: 2

Event-Driven Order Rescheduling Model for Just-In-Sequence Deliveries to a Mixed-Model Assembly Line

Georg Heinecke^{1,2}, Jonathan Köber³, Steffen Lamparter¹, Raffaello Lepratti¹, Andreas Kunz²

¹Siemens AG, Germany; ²ETH Zurich, Switzerland; ³CLAAS Selbstfahrende Erntemaschinen GmbH, Germany

MSC-1: 3

An Empirical Based Proposal for Mass Customization Business Model in Footwear Industry

Golboo Pourabdollahian, Donatella Corti, Chiara Galbusera, Julio Cesar Kostycz Silva

Politecnico di Milano, Italy

MSC-1: 4

Support to order management and collaborative production of customised goods for specific target groups

Eva Alessandra Coscia¹, Michele Sesana¹, Rosanna Fornasiero²

¹TXT e-solutions, Italy; ²ITIA-CNR, Italy

MSC-1: 5

Modeling and simulation tool for sustainable MC supply chain design and assessment

Paolo Pedrazzoli, Marino Alge, Andrea Bettoni, Luca Canetta

SUPSI, Switzerland

MSC-1: 6

Simulation-based design of production networks for manufacturing of personalised products

Dimitris Mourtzis, Michalis Doukas, Foivos Psarommatis

Laboratory for Manufacturing Systems and Automation (LMS), University of Patras, Greece, Greece

MSC-1: 7

Agent Based Resources Allocation in Job Shop with Re-entrant Features: A Benchmarking Analysis

Matteo Savino, Antonio Mazza

University of Sannio, Italy



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SMS-1: Service Manufacturing Systems - 1

Time: Tuesday, 25/Sep/2012: 10:30am - 12:50pm · Location: R4-NEFELI-B

Session Chair: **Toshiya Kaihara**

Session Chair: **Nobutada Fujii**

SMS-1: 1

**Multiagent System-based Simulation Method of Service Diffusion in Consumer Networks --
Application to repeatedly purchased plural services --**

Nobutada Fujii, Toshiya Kaihara, Tomoya Yoshikawa

Kobe University, Japan

SMS-1: 2

A Choice Experiment for Air Travel Services

Kenju Akai¹, Keiko Aoki², Nariaki Nishino¹

¹The University of Tokyo, Japan; ²Osaka University, Japan

SMS-1: 3

Improvement Method of Service Productivity for Taxi Company

Takashi Tanizaki

Kinki University, Japan

SMS-1: 4

PSS Production Systems: a simulation approach for change management

Guillaume Marquès, Xavier Boucher, Malik Chalal

Ecole Nationale Supérieure des Mines de Saint-Etienne, France

SMS-1: 5

Improving Customer's subjective waiting time using Digital Signage

Takeshi Shimmura¹, Toshiya Kaihara², Nobutada Fuzii², Takeshi Takenaka¹

¹National Institute of Advanced Industrial Science and Technology, Japan; ²Graduate School of System Informatics, Kobe University, Japan

SMS-1: 6

Do Consumers Select Food Products Based on Carbon Dioxide Emissions?

Keiko Aoki, Kenju Akai

Osaka Univeristy, Japan

SMS-1: 7

The "Servitization" of manufacturing: A methodology for the development of after-sales services

Daryl Powell¹, Ottar Bakås², Barbara Resta³, Paolo Gaiardelli³

¹Norwegian University of Science and Technology, Norway; ²SINTEF Operations Management, Norway; ³Università degli studi di Bergamo, Italy



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DMS-1: Design of Manufacturing Systems - 1

Time: Tuesday, 25/Sep/2012: 2:00pm - 3:40pm · *Location:* R3-NEFELI-A

Session Chair: **Alexandre Dolgui**

Session Chair: **Olga Battaïa**

DMS-1: 1

A Stochastic Formulation of the Disassembly Line Balancing Problem

Mohand Lounes Bentaha, Olga Battaïa, Alexandre Dolgui

EMSE, France

DMS-1: 2

Incorporating Regularity of Required Workload to the MMSP-W with Serial Workstations and Free Interruption of the Operations

Joaquín Bautista Valhondo, Rocío Alfaro Pozo, Alberto Cano Pérez

Universitat Politècnica de Catalunya, Spain

DMS-1: 3

Incorporating Ergonomics Factors into the TSALBP

Joaquín Bautista Valhondo, Cristina Batalla Garcia, Rocío Alfaro Pozo

Nissan Chair. Universitat Politècnica de Catalunya, Spain

DMS-1: 4

Critical factors for successful user-supplier integration in the production system design process

Jessica Bruch, Monica Bellgran

Mälardalen University, Sweden



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EEM-3: Energy Efficient Manufacturing - 3

Time: Tuesday, 25/Sep/2012: 2:00pm - 3:40pm · *Location:* R1-NAUSICA-A

Session Chair: **Juhani Heilala**

EEM-3: 1

Energy-efficient machining via energy data integration

Tao Peng¹, Xun Xu¹, Juhani Heilala²

¹University of Auckland, New Zealand; ²VTT, Finland

EEM-3: 2

An approach for energy saving in the compound feed production

Marc Redecker

University of Bremen, Germany

EEM-3: 3

Bridging the gap between energy management systems and machine tools – Embedded energy efficiency in production planning and control

Manuel Rippel, Olga Willner, Johannes Plehn, Paul Schoensleben

ETH Zurich, Switzerland

EEM-3: 4

Energy Efficient Production Planning: A Joint Cognitive Systems Approach

Connor Upton¹, Fergus Quilligan², Carlos A. García-Santiago³, Asier González-González³

¹Intel Labs Europe; ²Irish Centre for Manufacturing Research; ³Tecnalia

EEM-3: 5

Using Internet of Things to improve eco-efficiency in Manufacturing: a review on available knowledge and a framework for IoT adoption

Fadi Moh'd Shrouf, Giovanni Miragliotta

Politecnico di Milano, Italy



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Competitive Manufacturing for Innovative
Products and Services



PMO-1: Production Management, Operations & Logistics - 1

Time: Tuesday, 25/Sep/2012: 2:00pm - 3:40pm · *Location:* R2-NAUSICA-B

Session Chair: **Eiji Arai**

Session Chair: **Jan Frick**

PMO-1: 1

Tactical and Operational Issues in a Hybrid MTO-MTS Production Environment; the Case of Food Production

Anita Romsdal¹, Emrah Arica¹, Jan Ola Strandhagen², Heidi Carin Dreyer¹

¹Norwegian University of Science and Technology, Norway; ²SINTEF Technology and Society, Norway

PMO-1: 2

A Basic Study on Highly Distributed Production Scheduling

Eiji Arai, Eiji Morinaga, Hidefumi Wakamatsu

Osaka University, Japan

PMO-1: 3

One-of-a-Kind Production (OKP) planning & control: an empirical framework for the Special Purpose Machines Industry

Federico Adrodegari¹, Andrea Bacchetti¹, Alessandro Sicco¹, Fabiana Pirola², Roberto Pinto²

¹University of Brescia, Italy; ²CELS - Department of Industrial Engineering, University of Bergamo, Italy

PMO-1: 4

A note on the simple exponential smooth non-optimal predictor, the order-up-to policy and how to set a proper bullwhip effect

Erland Hejn Nielsen

Aarhus University, Faculty of Business and Social Sciences, Denmark

PMO-1: 5

A concept for project manufacturing planning and control for engineer-to-order companies

Pavan Kumar Sriram, Erlend Alfnes, Emrah Arica

Norwegian University of Science and Technology, Norway



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SMS-2: Service Manufacturing Systems - 2

Time: Tuesday, 25/Sep/2012: 2:00pm - 3:40pm · *Location:* R4-NEFELI-B

Session Chair: **Bruno Vallespir**

SMS-2: 1

Framework for Lean Management in Industrial Services

Günther Schuh, Philipp Christoph Stüer

FIR Institute for Industrial Management at the RWTH Aachen University, Germany

SMS-2: 2

Contribution to the development of a conceptual model of service and service delivery

Wael Touzi, Thecle Alix, Bruno Vallespir

IMS University of Bordeaux, France

SMS-2: 3

Manufacturing Service Innovation Ecosystem

Marco Taisch, Mohammadreza Heydari Alamdari

Politecnico di Milano, Italy

SMS-2: 4

Manufacturing Service Ecosystems: Towards a new model to support service innovation based on Extended Products

Stefan Wiesner¹, Ingo Westphal¹, Manuel Hirsch², Klaus-Dieter Thoben¹

¹Bremer Institut für Produktion und Logistik GmbH, Germany; ²DITF-MR, Germany

SMS-2: 5

Product-Service Systems modeling and simulation as a strategic diagnosis tool

Thecle Alix, Gregory Zacharewicz

IMS University of Bordeaux, France

PS-4: Plenary Session 4

Time: Tuesday, 25/Sep/2012: 09:00am - 11:00am · *Location:* Salon de Roses

Session Chair: **Marco Garetti**

PS-4

Keynote talk 5:

"Energy management operations in shipping industry",

Takis Varelas, DANAOS

Keynote talk 6:

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

Andrea Gentili, European Commission



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ADM-1: Advanced Design, Manufacturing and Production Management - 1

Time: Tuesday, 25/Sep/2012: 5:30pm - 7:10pm · *Location:* R3-NEFELI-A

Session Chair: **Katsuhiko Takahashi**

Session Chair: **Lenka Landryova**

ADM-1: 1

Universal simulation model in Witness software for verification and following optimization of the handling equipment

Jiri Holik, Lenka Landryova

VSB - Technical University of Ostrava, Czech Republic

ADM-1: 2

Understanding Product State Relations within Manufacturing Processes

Benjamin Knoke, Wuest Thorsten, Thoben Klaus-Dieter

BIBA - Bremer Institut für Produktion und Logistik GmbH, Germany

ADM-1: 3

An Adaptive Kanban and Production Capacity Control Mechanism

Léo Le Pallec Marand, Yo Sakata, Daisuke Hirotani, Katsumi Morikawa, Katsuhiko Takahashi

Hiroshima University, Japan

ADM-1: 4

Current state and future perspective research on the lean remanufacturing – focusing on the automotive industry

Elzbieta Pawlik, Winifred Ijomah, Jonathan Corney

University of Strathclyde, United Kingdom

ADM-1: 5

Cost management practices in collaborative product development processes

Carlos Barbosa, Paulo Afonso, Manuel Nunes

University of Minho, Portugal



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PMO-2: Production Management, Operations & Logistics - 2

Time: Tuesday, 25/Sep/2012: 5:30pm - 7:10pm · *Location:* R2-NAUSICA-B

Session Chair: **Peter Nielsen**

Session Chair: **Hans-Henrik Hvolby**

PMO-2: 1

A Design of Experiments Approach to Investigating the Sensitivity of the Re-Order Point Method

Peter Nielsen¹, Giovanni Davoli², Izabela Nielsen¹, Niels Gorm Rytter¹

¹Aalborg University, Denmark; ²University of Modena and Reggio, Italy

PMO-2: 2

Perishable Inventory Control

Cecilie M. Damgaard, Vivi T. Nguyen, Hans-Henrik Hvolby, Kenn Steger-Jensen

Centre for Logistics, Aalborg University, Denmark

PMO-2: 3

Practical considerations about error analysis for discrete event simulations model

Giovanni Davoli¹, Peter Nielsen², Gabriele Pattarozzi¹, Riccardo Melloni¹

¹University of Modena and Reggio Emilia, Italy; ²Aalborg University, Denmark

PMO-2: 4

Challenges of Measuring Revenue, Margin and Yield Optimization in Container Shipping

Albert Gardon¹, Peter Nielsen¹, Niels Gorm Maly Rytter²

¹Aalborg University, Denmark; ²Aalborg University Copenhagen, Denmark

PMO-2: 5

Improving port terminal operations through information sharing

Peter Bjerg Olesen, Iskra Dukovska-Popovska, Hans-Henrik Hvolby

Aalborg University, Denmark



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PRM-1: Performance and Risk Management - 1

Time: Tuesday, 25/Sep/2012: 5:30pm - 7:10pm · *Location:* R4-NEFELI-B

Session Chair: **Peter Almström**

Session Chair: **Stefan Hesse**

PRM-1: 1

Reference model concept for structuring and representing performance indicators in manufacturing

Bernhard Wolf¹, Stefan Hesse¹, Martin Rosjat¹, George Pintzos², Drazen Nadoveza³

¹SAP AG, Germany; ²University of Patras; ³cole polytechnique fédérale de Lausanne EPFL

PRM-1: 2

Modeling and Presentation of Interdependencies between Key Performance Indicators for Visual Analysis Support

Stefan Hesse, Volodymyr Vasyutynskyy, Martin Rosjat, Christian Hengstler

SAP Research Dresden, SAP AG, Germany

PRM-1: 3

Performance Measurement and Decision support systems for Craft oriented small enterprises

Inger Gamme¹, Eva Amdahl Seim², Eirin Lodgaard³

¹Høgskolen i Gjøvik, Norway / NTNU - Norwegian University of Science and Technology; ²NTNU - Norwegian University of Science and Technology; ³SINTEF Raufoss Manufacturing / NTNU - Norwegian University of Science and Technology

PRM-1: 4

State-of-the-art review on operational resilience: concept, scope and gaps

Seyoum Eshetu Birkie^{1,2}, Paolo Trucco¹, Matti Kaulio²

¹Politecnico di Milano, Italy; ²Royal Institute of Technology, Sweden

PRM-1: 5

Productivity measurement and improvements: A theoretical model and applications from the manufacturing industry

Peter Almström

Chalmers University of Technology, Sweden



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SVC-1: Sustainable Value Creation in Manufacturing - 1

Time: Tuesday, 25/Sep/2012: 5:30pm - 7:10pm · *Location:* R1-NAUSICA-A

Session Chair: **Marco Macchi**

Session Chair: **Steve Evans**

SVC-1: 1

Toward sustainability governance in manufacturing networks

Teuvo Uusitalo, Markku Reunanen, Katri Valkokari, Pasi Valkokari, Katariina Palomäki

VTT Technical Research Centre of Finland, Finland

SVC-1: 2

Implementation of Sustainability in Ongoing Supply Chain Operations

Liliyana J. Makarova, Peter M. Jensen, Brian V. Waehrens

Aalborg University, Denmark

SVC-1: 3

Embedding sustainability in business modelling through multi-stakeholder value innovation

Samuel Short, Padmakshi Rana, Nancy Bocken, Steve Evans

University of Cambridge, United Kingdom

SVC-1: 4

Business Modelling for Sustainable Manufacturing

Padmakshi Rana¹, Sam Short¹, Steve Evans¹, Maria Holgado Granados², Donatella Corti², Marco Macchi²

¹University of Cambridge, UK; ²Politecnico di Milano, Italy

SVC-1: 5

Modular framework for reliable LCA-based indicators supporting supplier selection within complex supply chains

Carlo Brondi¹, Rosanna Fornasiero¹, Manfredi Vale², Ludovico Vidali¹, Federico Brugnoli³

¹ITIA-CNR, Italy; ²Aghetera Environment & Development; ³Synesis Consortium



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Date: Wednesday, 26/Sep/2012

ADM-2: Advanced Design, Manufacturing and Production Management - 2

Time: Wednesday, 26/Sep/2012: 8:30am - 10:50am · *Location:* R2-NAUSICA-B

Session Chair: **Hajime Mizuyama**

Session Chair: **Marco Semini**

ADM-2: 1

Design and Simulation-Based Testing of a Prediction Market System Using SIPS for Demand Forecasting

Hajime Mizuyama

Aoyama Gakuin University, Japan

ADM-2: 2

Optimisation of Flexible Assembly Systems for Electrical Motors

Mirlind M Bruqi¹, Ramë Likaj¹, Jorgaq Kaqani²

¹Faculty of Mechanical Engineering, Kosovo; ²Polytechnic University of Tirana

ADM-2: 3

Flexible and Reconfigurable Layouts in Complex Manufacturing Systems

Maria Manuela Azevedo^{1,2}, José António Crispim^{2,3}, Jorge Pinho de Sousa^{1,2}

¹Faculty of Engineering, University of Porto, Porto, Portugal; ²INESC TEC, Porto, Portugal; ³School of Economics and Management, University of Minho, Braga, Portugal

ADM-2: 4

The multidisciplinary virtual product development integrates the influence of die casting defects in the mechanical response

Nicola Gramegna¹, Iñigo Loizaga², Susana Berrocal Ovejero², Franco Bonollo³, Giulio Timelli³, Stefano Ferraro³

¹Enginsoft S.p.A., Italy; ²FUNDACION CIE, Spain; ³University of Padova - DTG, Italy

ADM-2: 5

Splitting or sharing resources at the process level: An automotive industry case study

Dag E. Gotteberg Haartveit¹, Marco Semini¹, Erlend Alfnes²

¹SINTEF Industrial Management, Norway; ²Norwegian University of Science and Technology, Department of Production and Quality Engineering, Norway

ADM-2: 6

Evaluation of Lean Thinking Based Production Control Systems: A Literature Survey

Canan Ağlan

İstanbul Technical University, Turkey

ADM-2: 7

Intelligent Manufacturing Systems: Controlling Elastic Springback in Bending

Torgeir Welo

NTNU, Norway



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HFI-1: Human Factors, Innovation, Quality and Knowledge Management - 1

Time: Wednesday, 26/Sep/2012: 8:30am - 10:50am · Location: R4-NEFELI-B

Session Chair: **Vidosav D. Majstorovic**

HFI-1: 1

Innovating business model for services with storytelling

Morten Lund

Aalborg Universitet, Denmark

HFI-1: 2

The Internet of Experiences –Towards an Experience-Centred Innovation Approach

Stefan Wellsandt¹, Thorsten Wuest¹, Christopher Durugbo², Klaus-Dieter Thoben¹

¹Bremer Institut für Produktion und Logistik GmbH - BIBA , Germany; ²University of Bristol, United Kingdom

HFI-1: 3

Analysis of the effects of quality management system on the business performances: case study on pharmaceutical industry in Serbia

Vidosav Majstorovic¹, Tatjana Sibali², Valentina Marinkovic³

¹Faculty of Mechanical Engineering, University of Belgrade; ²Faculty of Engineering International Management, European University, Belgrade, Serbia; ³Faculty of Pharmacy, University of Belgrade

HFI-1: 4

Measurement, classification and evaluation of the innovation process and the identification of indicators regarding the assessment of the performance of a company's innovation zone

Peter Kubičko¹, Lenka Landryová², Roman Mihal¹, Iveta Zolotová¹

¹Department of Cybernetics and Artificial Intelligence, Technical University Kosice, Letná 9/A, Kosice, the Slovak Republic; ²Department of Control Systems and Instrumentation, VSB Technical University Ostrava, 17.listopadu 15, Ostrava, the Czech Republic

HFI-1: 5

Success factors for PDCA as continuous improvement method in product development

Eirin Lodgaard¹, Inger Gamme²

¹SINTEF Raufoss Manufacturing AS, Norway; ²Gjøvik University College

HFI-1: 6

International R&D and manufacturing networks: Dynamism, Structure and Absorptive Capacity

Patricia Deflorin¹, Maike Scherrer-Rathje², Helmut Dietl¹

¹University of Zurich, Switzerland; ²University of St.Gallen

HFI-1: 7

Supporting production system development through the Obeya concept

Siavash Javadi, Sasha Shahbazi, Mats Jackson

Mälardalen university, Sweden



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PAL-2: Product and Asset Lifecycle Management - 2

Time: Wednesday, 26/Sep/2012: 8:30am - 10:50am · *Location:* R1-NAUSICA-A

Session Chair: **Agostino Villa**

PAL-2: 1

Enterprise information systems' interoperability: Focus on PLM challenges

Dorsaf Elheni-Daldoul^{1,2}, Julien Le Duigou¹, Benoît Eynard¹, Sonia Hajri-Gabouj²

¹Université de Technologie de Compiègne, France; ²Institut National des Sciences Appliquées et de Technologie, Tunisie

PAL-2: 2

Concept and Modelling of Closed-Loop Life Cycle Management for Lightweight Solution

Fatih Karakoyun, Dimitris Kiritsis

EPFL, Switzerland

PAL-2: 3

Full exploitation of Product Lifecycle Management by integrating static and dynamic viewpoints

Dario Antonelli¹, Giulia Bruno¹, Antonia Schwichtenberg², Agostino Villa¹

¹Politecnico di Torino, Italy; ²Ontoprise GmbH, Germany

PAL-2: 4

Implementing Sustainable Supply Chain in PLM

Maria Bonvehí Rosich¹, Julien Le Duigou², Magali Bosch-Mauchand²

¹Universitat Politècnica de Catalunya – ETSEIB, Spain; ²Université de Technologie de Compiègne, France

PAL-2: 5

MDE approach for PLM system reconfiguration

Onur Yildiz², Iulia Gzara², Philippe Pernelle¹, Michel Tollenaere²

¹laboratory DISP - University of Lyon 1, France; ²laboratory G-SCOP - INP Grenoble, France

PAL-2: 6

Dynamic Alarm Management in Next Generation Process Control Systems

Eva Jerhotova, Petr Stluka, Marek Sikora

Honeywell, Czech Republic

PAL-2: 7

Review of implementation of FMEA methodology in the development of information systems

Marcelo Henrique, Jose Abel Baptista, Paulo Cristiano Oliveira, Paulo Ramirez, Luciane Ribeiro

Unip, Uninove e Unicastelo University, Brazil



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SUS-1: Business Strategies, Models and Sustainability - 1

Time: Wednesday, 26/Sep/2012: 8:30am - 10:50am · *Location:* R3-NEFELI-A

Session Chair: **Vito Albino**

Session Chair: **Gunduz Ulusoy**

SUS-1: 1

Sustainable Food Supply Chains: Towards a Framework for Waste Identification

Lukas Chabada¹, Heidi Carin Dreyer¹, Daryl John Powell¹, Anita Romsdal²

¹Norwegian University of Science and Technology, Trondheim, Norway; ²SINTEF Technology & Society, Trondheim, Norway

SUS-1: 2

Classification of Industrial Symbiosis Systems: A focus on materials and energy recovery

Vincenzo Alessio Romano, Vito Albino, Achille Claudio Garavelli

Polytechnic of Bari, Italy

SUS-1: 3

Sizing energy efficiency research opportunities in the ceramic tile production system

Jose Antonio Heredia Alvaro

Universitat Jaume I, Spain

SUS-1: 4

Performance Evaluation in Sustainability Conscious Manufacturing Companies by Using TOPSIS Method

Merve Kilic, Seren Ozmehmet Tasan

Dokuz Eylul University, Turkey

SUS-1: 5

Design of controlling for supporting continuous improvement and sustainability of manufacturing enterprises

Eryk Głodziński

Warsaw University of technology, Poland

SUS-1: 6

Business Strategy and Innovativeness: Results from an Empirical Study

Gunduz Ulusoy¹, Gurhan Gunday¹, Kemal Kilic¹, Lutfihak Alpkam²

¹Sabancı University, Turkey; ²Gebze Institute of Technology



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AML-1: Application of Modern Learning Technologies in Manufacturing and Production Systems - 1

Time: Wednesday, 26/Sep/2012: 11:10am - 1:10pm · Location: R1-NAUSICA-A

Session Chair: **Borzoo Pourabdollahian**

Session Chair: **Philippe Pernelle**

AML-1: 1

The Use of Serious games in the education of Engineers

Jannicke Madeleine Baalsrud Hauge¹, Borzoo Pourabdollahian², Johann c.k.h. Riedel³

¹University of Bremen, Bremen, Germany; ²Politecnico di Milano, Milan, Italy; ³Nottingham University Business School, Nottingham, UK

AML-1: 2

Using Behavioural Indicators to Assess Competences in a Sustainable Manufacturing Learning Scenario

Heiko Duin¹, Gregor Cerinsek², Manuel Oliveira³, Michael Bedek⁴, Slavko Dolinsek²

¹BIBA - Bremer Institut für Produktion und Logistik GmbH, Germany; ²IRI UL; ³SINTEF; ⁴Graz University of Technology

AML-1: 3

Applying serious games in lean manufacturing training

Mourad Messaadia¹, Ahmed Bufardi², Julien Le-Duigou¹, Hadrien Szigeti³, Benoît Eynard¹, Dimitris Kiritsis²

¹UTC, France; ²EPFL, Switzerland; ³Dassault Systèmes, France

AML-1: 4

Flow and Physical Objects in Experiential Learning for Industrial Engineering Education

David Jentsch, Riedel Ralph, Egon Müller

Chemnitz University of Technology, Germany

AML-1: 5

Learning PLM system with a Serious Game

Philippe Pernelle¹, Thibault Carron², Jean-Charles Marty³, Stephane Talbot⁴

¹Laboratory DISP - University of Lyon 1, France; ²Laboratory LIP6 - Paris, France; ³Laboratory LIRS - Lyon, France; ⁴University of Savoie, France

AML-1: 6

Model of skills development at the operational level applied to the steel industry

Ulysses Martins Ulysses Moreira Filho¹, Pedro Luiz Oliveira Costa Neto²

¹Universidade Paulista, Brazil; ²Universidade Paulista, Brazil



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EII-1: Enterprise Integration and Interoperability - 1

Time: Wednesday, 26/Sep/2012: 11:10am - 1:10pm · *Location:* R2-NAUSICA-B

Session Chair: **Athanasios P. Kalogeras**

Session Chair: **Gabriela Patricia Henning**

EII-1: 1

Towards Changeable Production Systems – Integration of the Internal and External Flow of Information as an Enabler for Real-Time Production Planning and Controlling

Volker Stich, Niklas Hering, Stefan Kompa, Ulrich Brandenburg

FIR at RWTH Aachen University, Germany

EII-1: 2

Integrated model-based manufacturing for rapid product and process development

Vesna Mandic¹, Radomir Radisa², Vladan Lukovic¹, Milan Curcic¹

¹Faculty of Engineering, University of Kragujevac, Serbia; ²Lola Institute, Belgrade, Serbia

EII-1: 3

Real-time production monitoring in large heterogeneous environments

Arne Schramm, Bernhard Wolf, Raik Hartung, André Preußner

SAP, Germany

EII-1: 4

Ontology-based flexible multi agent systems design and deployment for vertical enterprise integration

Christos Alexakos¹, Manos Georgoudakis², Athanasios Kalogeras², Spiridon Likothanassis¹

¹University of Patras, Greece; ²Industrial System Institute, Greece

EII-1: 5

MANU Building – bringing together manufacturing automation and building automation

Aleksey Bratukhin, Albert Treytl, Thilo Sauter

Austrian Academy of Sciences, Austria

EII-1: 6

Formal specification of batch scheduling problems: A step toward integration and benchmarking

Gabriela Patricia Henning

Universidad Nacional del Litoral, Argentine Republic



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ROB-1: Robotics in Manufacturing

Time: Wednesday, 26/Sep/2012: 11:10am - 1:10pm · *Location:* R4-NEFELI-B

Session Chair: **Rosanna Fornasiero**

Session Chair: **Kenn Steger-Jensen**

ROB-1: 1

New automated production system for the footwear industry and impact on production performance and on company organization

Silvio Cocuzza¹, Rosanna Fornasiero², Stefano Debei¹

¹CISAS - University of Padova, Padova, Italy; ²ITIA-CNR, Milan, Italy

ROB-1: 2

Multi-objective Mobile Robot Scheduling Problem with Dynamic Time Windows

Quang-Vinh Dang, Izabela Nielsen, Kenn Steger-Jensen

Aalborg University, Denmark

ROB-1: 3

Safety-guided design concerning standardization's requirements of mowing robots

Spyridon Mouroutsos, Eleftheria Mitka

Democritus University of Thrace, Greece

ROB-1: 4

Multi-camera 3D object reconstruction for industrial automation

Malamat Bitzidou, Dimitrios Chrysostomou, Antonios Gasteratos

Democritus university of Thrace, Greece

ROB-1: 5

Multimodal processes rescheduling

Grzegorz Bocewicz¹, Zbigniew Banaszak³, Peter Nielsen², Vinh Quang Dang²

¹Koszalin University of Technology; ²Aalborg University, Dept. of Mechanical and Manufacturing Engineering; ³Warsaw University of Technology, Faculty of Management



SIP-1: Sustainable innovations in products and services in developing countries - 1

Time: Wednesday, 26/Sep/2012: 11:10am - 1:10pm · Location: R3-NEFELI-A

Session Chair: **Irenilza Nääs**

SIP-1: 1

Building a conceptual model for analyzing sustainability projects aiming at technology transfer: a terminological approach

Deise Rocha Martins dos Santos Oliveira^{1,2}, Irenilza de Alencar Nääs¹, Ivo Pierozzi Júnior², Oduvaldo Vendrametto¹

¹Paulista University - UNIP, Brazil; ²Embrapa Agricultural Informatics, Brazil

SIP-1: 2

A case study on the benefits that virtualization provides the IT and its positive impact on the environment

Andréa Martins Cristóvão¹, Ivanir Costa¹, Antonio Palmeira Araujo Neto¹, Cao Ji Can²

¹Universidade Paulita, Brazil 1; ²Universidade de São Paulo 2

SIP-1: 3

The Influence of the Sustainability over the Information Technology Governance Process

Antônio Palmeira Araújo Neto, Ivanir Costa, Andréa Martins Cristóvão, Valdir Morales

Paulista University, Brazil

SIP-1: 4

Impact of the tasks of maintenance function in corporate sustainability: An empirical study on Brazilian steel mills

José Barrozo de Souza¹, José Benedito Sacomano², Fábio Paparlado³

¹Universidade Paulista - UNIP, Brazil; ²Universidade Paulista - UNIP, Brazil; ³Universidade Paulista - UNIP, Brazil

SIP-1: 5

Development of Engineering Competences in Brazil and Innovation Policies, an Overview of the Automotive Sector

Renato Perrotta, Oduvaldo Vendrametto

UNIP - Paulista University, Brazil

SIP-1: 6

Issues of sustainability on the Brazilian broiler meat production chain

Irenilza Nääs, Deise Oliveira, Mario Mollo Neto, Simone Canuto, Robert Waker, Oduvaldo Vendrametto

Paulista University-UNIP, Brazil



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AML-2: Application of Modern Learning Technologies in Manufacturing and Production Systems - 2

Time: Wednesday, 26/Sep/2012: 2:20pm - 4:00pm · *Location:* R1-NAUSICA-A

Session Chair: **Julien Le Duigou**

AML-2: 1

Beware of the robot: a highly interactive and immersive Virtual Reality training application in robotic manufacturing systems

Elias Matsas¹, Dimitrios Batras², George-Christopher Vosniakos¹

¹NATIONAL TECHNICAL UNIVERSITY OF ATHENS, Greece; ²ARTS ET METIERS PARISTECH, LAVAL, France

AML-2: 2

Lean Product Development: Serious Game Design and Evaluation of the Learning Outcomes

Endris Kerga¹, Marco Tasich¹, Sergio Terzi², Monica Rossi¹

¹POLIMI, Italy; ²Università degli Studi di Bergamo, Italy

AML-2: 3

Educational framework of Product Lifecycle Management issues for Master and PhD study programmes

Milan EDL

University of West Bohemia, Czech Republic

AML-2: 4

Context Aware E-Support in E-Maintenance

Nikos Papathanasiou^{1,2}, Christos Emmanouilidis², Petros Pistofidis^{1,2}, Dimitris Karampatzakis²

¹Democritus University of Thrace, Greece; ²ATHENA Research & Innovation Centre, Greece

AML-2: 5

Integrating competence management into a coupled project-system design management

Arz Wehbe¹, Christophe Merlo^{1,2}, Veronique Pilniere^{2,3}

¹IMS - Bordeaux University, France; ²ESTIA, France; ³CREG-UPPA, France



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ICT-2: ICT for Manufacturing, Services, Logistics and Production Management - 2

Time: Wednesday, 26/Sep/2012: 2:20pm - 4:00pm · *Location:* R2-NAUSICA-B

Session Chair: **Henk Jan Pels**

Session Chair: **Jinwoo Park**

ICT-2: 1

Analysing IT supported production control by relating Petri Nets and UML static structure diagrams

Henk Jan Pels

Technische Universiteit Eindhoven, Netherlands, The

ICT-2: 2

MES Support for Lean Production

Daryl Powell, Emrah Arica, Andreas Binder

Norwegian University of Science and Technology, Norway

ICT-2: 3

Analysis of the Underlying Factors for Applicability and Practicality of the Production Control Systems

EMRAH ARICA¹, JAN OLA STRANDHAGEN¹, HANS HENRIK HVOLBY²

¹Norwegian University of Science and Technology, Norway; ²Aalborg University

ICT-2: 4

Designing Integrated Data System for Remanufacturing with Radio Frequency Identification Technology

Young-woo Kim, Jinwoo Park

Seoul National University, Korea, Republic of (South Korea)

ICT-2: 5

Emerging Smart Engineering: An Integrated Manufacturing and Management System

Jozef Bogdan Lewoc¹, Antoni Izworski Izworski², Slawomir Feliks Skowronski², Antonina Kieleczawa³, Peter Kopacek⁴

¹BPBiT Leader (Leading Designer), Poland; ²Wroclaw University of Technology; ³IASE, Wroclaw;

⁴Vienna University of Technology



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PMO-3: Production Management, Operations & Logistics - 3

Time: Wednesday, 26/Sep/2012: 2:20pm - 4:00pm · *Location:* R4-NEFELI-B

Session Chair: **Nikolaos A. Panayiotou**

Session Chair: **Ilias Tatsiopoulos**

PMO-3: 1

Assessing the impact of management concerns in e-business requirements planning in manufacturing organisations

Ashok Kumar Kochhar

Aston University, United Kingdom

PMO-3: 2

Supporting the Design of a Management Accounting System of a Company Operating in the Gas Industry with Business Process Modeling

Nikolaos A. Panayiotou, Ilias P. Tatsiopoulos

National Technical University of Athens, Greece

PMO-3: 3

Base stock inventory systems with compound Poisson demand: case of partial lost sales

M. Zied BABAI¹, Zied Jemai², Yves Dallery²

¹BEM-Bordeaux Management School, France; ²LGI-Ecole Centrale Paris

PMO-3: 4

Improved Spare Parts Demand Management via Aggregation

Z. Babai¹, Yiannis Polychronakis², B.T. Rostami¹, N. Saccani³, A.A. Syntetos²

¹Bordeaux Management School, France; ²University of Salford, United Kingdom; ³University of Brescia, Italy



APMS 2012 International Conference

Advances in Production Management Systems

Competitive Manufacturing for Innovative
Products and Services



SIP-2: Sustainable innovations in products and services in developing countries - 2

Time: Wednesday, 26/Sep/2012: 2:20pm - 4:00pm · *Location:* R3-NEFELI-A

Session Chair: **Pedro Luiz de Oliveira Costa Neto**

SIP-2: 1

Private and public partnership: sustainable green actions in Brazil

Dalton Oswaldo Buccelli, Pedro Luiz de Oliveira Costa Neto

Paulista University, Production Engineering Graduate Program

SIP-2: 2

Applicability of Risk Process in Software Projects in Accordance with ISO 31000:2009

Marcelo Nogueira¹, Ricardo J. Machado²

¹Software Engineering Research Group, University Paulista, UNIP, Brazil; ²ALGORITMI Center, School of Engineering, University of Minho, Portugal

SIP-2: 3

Finding Optimal Resources for IT Services

Sumit Raut, Muralidharan Somasundaram

TCSL, India

SIP-2: 4

The importance of Brazilian legislation for the improvement of Quality of Life

Aline Rodrigues Sacomano, Pedro Luiz de Oliveira Costa Neto

Paulista University Production Engineering Graduate Program

SIP-2: 5

Holistic Vision of Sustainability in the Production Chain in Oil Exploration Pre-Salt Layer

Alessandro Luiz da Silva, Mônica Franchi Carniello, Jose Luis Gomes da Silva

Universidade of Taubaté, Brazil

CS: Closing Session - Awards

Time: Wednesday, 26/Sep/2012: 16:15am - 17:00am · *Location:* NAUSICA-A

Christos Emmanouilidis: Closing Remarks

Marco Taisch and Dimitris Kiritsis: Burbidge Awards



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THE BURBIDGE AWARD

Professor John Burbidge was an active and prominent member of the IFIP WG 5.7 group. In order to celebrate a life time of achievement and contribution to the field of Integrated Production Management, in 1995 the group decided to institute the **Burbidge Award in recognition of excellence in research.**

The Burbidge Awards are awarded at the group's annual conferences

- to the author(s) of the best paper
- the person(s) made the best presentation

In making the awards the following criteria is used:

The best paper

- news value and interest
- relevance in relation to practice
- argumentation, evidence
- scope of the paper regarding the conference
- typography and aesthetics

The best presentation

- winning the audience
- structuring the presentation
- clearness and understandability
- quality of AV-aids
- answering questions



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