APMS 2009

Advances in Production Management Systems

University of Bordeaux, Talence, France

September 19-23, 2009

Programme of the event

Saturday, September 19, 2009
Doctoral Workshop
Sunday, September 20, 2009
Doctoral Workshop
PPC Editorial Board Meeting
IFIP WG 5.7 annual meeting

Monday, September 21, 2009
APMS 2009 conference
Tuesday, September 22, 2009
APMS 2009 conference
Wednesday, September 23, 2008
APMS 2009 conference

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Advances in Production Management Systems

19-23 September 2009, Bordeaux, France

International Conference on Advances in Production Management Systems

The major event of the IFIP Working Group 5.7 on Integrated Production Management

Theme: "Production Management Systems: New Challenges, New Approaches"

The today's economic and social environment leads to new situations within which companies must operate. As first example, the globalization of economy and the need for performances leads companies to outsource and then, to operate inside enterprises networks such as supply chains or virtual enterprises. A second instance is related to environmental issues. The statement about the impact of industrial activities onto environment leads companies to revise processes, to save energy, to optimize transportation, etc. A last example relates to knowledge. Knowledge is considered today to be one of the main assets of a company. How to capitalize, to manage, to reuse it for the benefit a company is an important, current issue.

The three examples above have no direct links. However, each of them constitutes a challenge that companies face today. In order to do so, companies have to find new solutions and researchers to define new approaches.
New challenges … new approaches …

Since several decades, APMS is the official conference of the **IFIP Working Group 5.7 on Integrated Production Management**. Organized each three years at the beginning, APMS is a yearly conference since 2005. Since this year, APMS successfully took place in **Washington** (USA, 2005), **Wroclaw** (Poland, 2006), **Linköping** (Sweden, 2007) and **Espoo** (Finland, 2008).

In 2009, APMS takes place in Bordeaux (France). In addition to an international conference, this event is also:

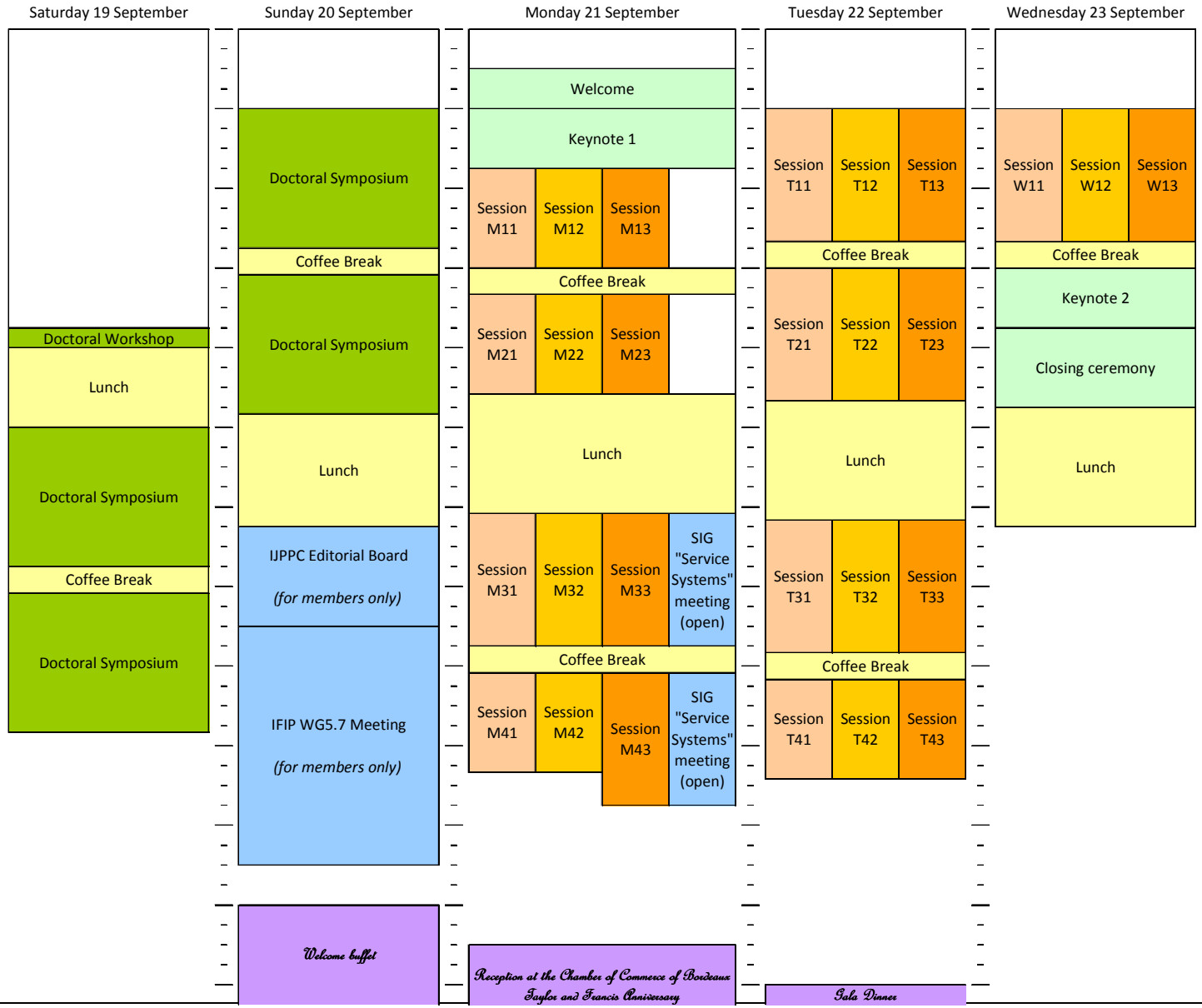
- a doctoral workshop (see page 13),
- the opportunity to organize technical meetings around the event (see page 21), and
- the place to meet IFIP WG 5.7 members and experts in Production Management Systems.

The final conference papers will be included in a conference proceedings book published by Springer in the serie called "IFIP Advances in Information and Communication Technology" (IFIP AICT). Selected papers will be considered for development into journal papers for a special issue in Production Planning and Control.

Bruno Vallespir, Professor
IMS, University of Bordeaux (FR)

GLOBAL PROGRAMME

Global Programme



DETAILED PROGRAMME

Doctoral Workshop programme

Location: University of Bordeaux 1, Building A31 (see the practical information)

Saturday 19th September 2009

11:45 **12:00**	**Welcome to the APMS 2009 doctoral workshop** Professor Abdelaziz Bouras, LIESP, University of Lyon (FR)

Lunch

13:00 **14:45**	**Session 1**	Peer reviewer	Scientific Supervisor
	A model for After-Sales service systems *E. Legnani- University of Bergamo (IT)*	M. Badja (FR)	S. Childe (UK)
	Strategies evaluation model in supply disruption risk management *F. Pirola- University of Bergamo (IT)*	M. Valas (CZ)	A. Bouras (FR)
	Emerging technologies for displaying data from manufacturing *M. Valas - Technical University Ostrava (CZ)*	F. Pirola (IT)	Y. Ducq (FR)

Coffee break

15:05 **16:50**	**Session 2**	Peer reviewer	Scientific Supervisor
	Contribution to performance measurement methodology within LOLF framework *M. Badja - IMS, University of Bordeaux (FR)*	P. Osadnik (CZ)	M. Taisch (IT)
	Methodology and architecture of Long Term Knowledge Retention *T. Fei - LIESP, INSA Lyon (FR)*	E. Legnani (IT)	S. Cavalieri (IT)
	Integration of SCADA/HMI to Enterprise *P. Osadnik - Technical University Ostrava, CZ*	T. Fei (FR)	V. Chapurlat (FR)

16:50	**Doctoral Workshop Day 1 Closing**

17:30 **23:30**	Departure by bus to Saint Emilion *(for phd students and scientific supervisors only)*
	Lunch and exhibition visit in Saint Emilion *(for phd students and scientific supervisors only)*

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Sunday 20th March 2009 *(continuation)*

09:00 10:45	**Session 3**	Peer reviewer	Scientific Supervisor
	Models for the evaluation of coordination performance in a Supply Chain *Y. Ming - ENI Tarbes, FR*	A. Cannata (IT)	S. Childe (UK)
	Modeling production processes and production management for future Energy Efficient Manufacturing *A. Cannata - Politecnico di Milano, IT*	Y. Ming (FR)	A. Bouras (FR)
	Towards an integration between product and production information through the PLM-MES interoperability *A. Ben Khedher - LIESP, INSA Lyon, FR*	Z. JIA (FR)	R. Smeds (FI)

Coffee break

11:05 12:50	**Session 4**	Peer reviewer	Scientific Supervisor
	Increasing Motivation towards Networked Business Process Change *K. Hanninen- Helsinki University of Technology, FI*	A. Ben Khedher (FR)	S. Cavalieri (IT)
	Developing interoperability in collaborative process: an Anticipative Effects-Driven Approach *S. Mallek - Ecole des Mines Alès, Nîmes, FR*	K. Hanninen (FI)	M. Taisch (IT)
	Interoperability between partners in charge of controlling transportation and production activities in the supply chain *Z. Jia - IMS, University of Bordeaux*	S. Mallek (FR)	R. Smeds (FI)

Lunch

14:00	**Doctoral Workshop Day 2 Closing**

APMS conference programme

Location: ENSEIRB (see the practical information)

Monday 21st September 2009

08:30 – 09:00 **Opening Session**
Chair: B. Vallespir – IMS, University of Bordeaux (FR)

09:00 – 09:45 **Keynote: Federated means for great destinies required for industrial alliance strategies: risk sharing, virtual platforms and integrated logistics**
Y. Fourastier: *RTD manager - System engineering, information systems and security, EADS France, Innovation Works*
Chair: B. Vallespir – IMS, University of Bordeaux (FR)

09:45 – 11:00

Session M11. Special session on "Business process and performance management of product-service systems" (1)	Session M12. Special session on "Interoperable and agile production systems"	Session M13. Special session on "Co-Evolution of Product Design and Supply Chain considering Change Management Strategies"
Chair: T. Alix – IMS, University of Bordeaux (FR)	**Chair: J.P. Bourrieres – IMS, University of Bordeaux (FR)**	**Chair: M. Zolghadri – IMS, University of Bordeaux (FR)**
Contribution to the definition and modelling of service and service activities *M. Badja, W. Touzi, T. Alix - IMS, University of Bordeaux (FR)*	High Resolution Supply Chain Management - Resolution of the polylemma of production by information transparency and organisational integration *T. Brosze, F. Bauhoff, V. Stich - RWTH, Aachen University (DE)*	Network modularity as a basis to partner's selection *S. Zouggar, M. Zolghadri, D. Zhang, P. Girard - IMS, University of Bordeaux (FR)*
A structured comparison of the service offer and the service supply chain of manufacturers competing in the business-to-business (B2B) and in the business-to-consumer (B2C) markets *D. Corti, A. Portioli Staudacher - Politecnico di Milano (IT)*	Superior Performance of Leagile Supply Networks by Application of Autonomous Control *B. Scholz-Reiter, A. Mehrsai - BIBA Bremen (DE)*	Knowledge based Product and Process Engineering enabling Design and Manufacturing Integration *M. Bricogne-Cuignières, F. Belkadi, M. Bosch-Mauchand, B. Eynard - Technology University of Compiègne (FR)*
Business Process Management Systems - enabling continuous improvement in industrial services delivery *H. Hirvensalo, J. Holmström, T. Ala-Risku - Helsinki University of Technology (FI)*	Analysis of the harmonizing potential of order processing attributes in spread production systems *D. Oedekoven, V. Stich, T. Brosze - RWTH, University of Aachen (DE)*	

Coffee break

11:20 – 12:35

Session M21. Special session on "Business process and performance management of product-service systems" (2)	Session M22. Relationships with customers	Session M23. Knowledge management
Chair: S. Cavalieri – University of Bergamo (IT)	**Chair: S. Umeda - Musashi University (JP)**	**Chair: A. Bouras – LIESP, University of Lyon (FR)**
A framework for product-service design for manufacturing firms *T. Alix, B. Vallespir - IMS, University of Bordeaux (FR)*	A concurrent newsvendor problem with rationing *R. Pinto - University of Bergamo (IT)*	Knowledge Based Enterprise Engineering (KBEE): a modelling Framework for Capitalization of Enterprise Knowledge *M. Moradi, M. Badja, B. Vallespir - IMS, University of Bordeaux (FR)*
Lean implementation in service companies *A. Portioli Staudacher - Politecnico di Milano (IT)*	A model for vendor selection and dynamic evaluation *R. Iannone, S. Miranda, S. Riemma, D. Sarno - University of Salerno (IT)*	The Knowledge Dimensions of Production Transfer *J.O. Riis, B.V. Waehrens, E.S. Madsen - University of Aalborg (DK)*
Exploring the causal relationships of performance metrics in after sales service *E. Legnani, S. Cavalieri - University of Bergamo (IT)*	Customer Driven Capacity Setting *A. Hübl, K. Altendorfer, J. Pilstl, H. Jodlbauer - Upper Austria University of Applied Sciences (AT)*	

Lunch at the restaurant "La Passerelle" *(see the Campus Map)*

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14:05 15:45	**Session M31. Special session on "From single to networked enterprises performance measurement and management"**	**Session M32. Special session on "New practices in transportation and logistic organisations"**	**Session M33. Special session on "Agent Modelling, Distributed Simulation & Control Frameworks for Production Management Systems"**
	Chair: Y. Ducq – IMS, University of Bordeaux (FR) Integration of requirements for Performance Indicator System definition and implementation methods *M. Ravelomanantsoa, Y. Ducq, B. Vallespir - IMS, University of Bordeaux (FR)* Innovation Management in European Projects *B. Monnier - Thales group Palaiseau (FR)* *M. Zolghadri – University of Bordeaux (FR)* Understanding process quality in the context of collaborative business network structures *P. Sitek, N. Zarvić, M. Seifert, K.D.Thoben - BIBA Bremen (DE)* A comprehensive approach for the production management of enterprises operating in collaborative networks including performance analysis, provision of incentives and allocation of income *H. Jähn- Department of Economic Sciences, Chemnitz (DE)*	**Chair: J.C. Deschamps – IMS, University of Bordeaux (FR)** EURIDICE - A services framework and communication platform for applying the vision of "intelligent cargo" in logistics *J. Schumacher, M. Gschweidl, M. Rieder, T. Bargetz - Vorarlberg University of Applied Sciences, Dornbirn (AT)* Decision making tool for the selection of Urban Freight Transport project *N. Malhéné, D. Breuil - EIGSI, La Rochelle (FR)* Making PROFIT at the intermodal terminal - A research agenda *T. Netland, I. Spjelkavik - SINTEF Trondheim (NO)* The Value of Lead Logistics Services *O. Schneider, A. Lindner - ETH Zürich (CH)*	**Chair: G. Zacharewicz – IMS, University of Bordeaux (FR)** Multi agent/HLA enterprise interoperability (short-lived ontology based) *G. Zacharewicz, O. Labarthe, D. Chen, B. Vallespir - IMS, University of Bordeaux (FR)* Model based on Bayesian Networks for Monitoring Events in the Supply Chain *M E. Fernandez, H. Salomone, O. Chiotti - INGAR - CONICET Santa Fe (AR)* Simulation Model Driven Engineering for Manufacturing Cell *G H. Hibino, T. Inukai, Y. Yoshida - Japan Society for the Promotion of Machine Industry (JP)* VirtES (Virtual Enterprise Simulator): a proposed methodology for enterprise simulation modelling *M G. Davoli, S.A. Gallo, R. Melloni - University of Modena and Reggio Emilia (IT)*

Coffee break

16:05 17:45	**Session M41. Sustainability**	**Session M42. Risks and uncertainty**	**Session M43. Maintenance, inspection and monitoring**
	Chair: P. Falster - Technical University of Denmark (DK) From Product End-of-life Sustainable Considerations to Design Management *N.Duque Ciceri, M. Garetti – Politecnico di Milano (IT)* *S. Sperandio – IMS, University of Bordeaux (FR)* A Conceptual Framework for Sustainable Manufacturing by Focusing Risks in Supply Chain *M. Nakano - University of Keio (JP)* Introducing Energy Performances in Production Management: Towards Energy Efficient Manufacturing *A. Cannata, M. Taisch - Politecnico di Milano (IT)*	**Chair: L. Lendryova - Technical University of Ostrava (CZ)** The impact of behaviour-based strategies on supply uncertainty *F. Pirola, R. Pinto - University of Bergamo (IT)* MRP offsetting for assembly systems under random component delivery times *M. A. Louly – King Saud University (SA)* *A. Dolgui – Ecole des Mines Saint Etienne (FR)*	**Chair: J. Frick - Stavanger University (NO)** Towards a maintenance and servicing indicator *P. Vrignat, M. Avila, F. Duculty, F. Kratz - Institut PRISME, University of Orleans (FR)* A three-level Petri net to support VR-based interactive maintenance procedure training *T.W. Huang, P.H. Hsieh, T.L. Sun, W.Y. Feng, C.J. Chao - Yuan Ze University (TW)* Monitoring of collaborative assembly operations: an OEE based approach *S. Kivikunnas, E.M. Sarjanoja, J. Koskinen, T. Heikkilä - VTT Oulu (FI)* The value of sampling inspection in a single-period remanufacturing system with stochastic returns yield *C. Zikopoulos, S. Panagiotidou, G. Nenes - Aristotle University of Thessaloniki (GR)*

17:45	**APMS Conference Day 1 Closing**

19:30 21:30	Reception at the Chamber of Commerce of Bordeaux (CCI) and Taylor and Francis Anniversary *(see the maps to know how to get there)*

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Tuesday 22nd September 2009

09:00 10:40	Session T11. Services (1)	Session T12. Special session on "Cooperative supply chains: models and challenges"	Session T13. Production processes
	Chair: S. Childe – Exeter University (UK) The Concept of Modularisation of Industrial Services *F. Seite, O.Schneider, A. Nobs – ETH Zürich (CH)* A Multi-Dimensional Service Chain ecosystem model *F. Biennier, R. Aubry, Y. Badr - LIESP, INSA Lyon (FR)* Hypergraph of Services for Business Interconnectivity and Collaboration *A. Esper, Y. Badr, F. Biennier - LIESP, INSA Lyon (FR)* Lean first, then automate an integrated *T. Bortolotti, P. Romano, B. Nicoletti - Università degli studi di Bergamo (IT)*	**Chair: M. Nakano - Keio University (JP)** A study on VMI-based supply-chain system by simulation analysis *S. Umeda - Musashi University, Tokyo (JP)* How do the key determinants of a distributed planning process impact on the performance of a supply chain? *J. Francois, U. Okongwu, J.C. Deschamps, M. Lauras - IMS, University of Bordeaux (FR)* The Application of Lean Production Control Methods within a Process-Type Industry: The Case of Hydro Automotive Structures *D. Powell, E. Alfnes, M. Semini - RWTH, University of Aachen (DE)* A data aggregation methodology to assess the global production capacity of complex supply chains *F. Pereyrol, J.C. Deschamps, J. François, P. Farthouat, R. Dupas - IMS, University of Bordeaux (FR)*	**Chair: H. Dreyer – SINTEF (NO)** Integration of supplier and customer's production processes *M. Eisler, R. Horbal - Wroclaw University of Technology (PL)* Methodology of designing disassembly and reassembly processes using Lean Thinking approach *T. Kanikula - Politechnika Wroclawska (PL)* Evaluating Energy Efficiency Improvements in Manufacturing Processes *K. Bunse, M. Vodicka - Center of Enterprise Sciences (CH)* Integrated Micro Process Chains *S B. Scholz-Reiter, N. Brenner, A. Kirchheim - University of Bremen (DE)*

Coffee break

11:00 12:40	Session T21. Services (2)	Session T22. Supply chains operation management	Session T23. Production management
	Chair: A. Portioli - Politecnico di Milano (IT) Health care value chain *L. Kawczynski, M. Taisch - Politecnico di Milano (IT)* Health care provider processes analysis *L. Kawczynski, M. Taisch - Politecnico di Milano (IT)* Networked service innovation process in the production of a new urban area *E. Väyrynen, R. Smeds - Helsinki University of Technology (FI)* Lean first, then automate: an integrated model for process improvement in pure service-providing companies *J. Angelis, R. Ritchie - OM Group, WBS (UK)*	**Chair: H. Jagdev - Manchester University (UK)** Supply chain reactivity assessment regarding two negotiated commitments: Frozen horizon & flexibility rate *A. Amrani-Zouggar, J.C. Deschamps, J.P. Bourrières - IMS, University of Bordeaux (FR)* Principles for real-time, integrated supply chain operations: an example from distribution of pharmaceuticals *J.O. Strandhagen, H.C. Dreyer, A. Romsdal, A. Hoff - NTNU Trondheim (NO)* Capacity Adjustment through Contingent Staffing Outsourcing *G. Neubert – ESC St Etienne (FR)* *P. Adjadj – Wincanton La Verpillière (FR)* Coordination in Supply Chains: from case studies to reference models *Y. Ming, R. Houé, B. Grabot - ENI Tarbes (FR)*	**Chair: F. Persson – Linköping Institute of Technology (SE)** An improvement tool for NEH-based heuristics on permutation and blocking flow-shop scheduling problems *R. Companys, I. Ribas, M. Mateo - Universidad Politécnica de Cataluña (ES)* A Basic Study on the Installation of Distributed Autonomous Production Scheduling System in Ubiquitous Environment *M S. Fujii, T. Motohashi, T. Irohara, Y. Miyamoto - Sophia University, Tokyo (JP)* Experimental Evaluation of Inventory-Based Discrete-Updating Market Maker for Intra-Firm Prediction Market System Using VIPS *S. Zouggar, M. Zolghadri, D. Zhang, P. Girard - IMS, University of Bordeaux (FR)* Database scheme configuration for a productline of MPC-TOOLS *H. Mizuyama, M. Ueda, K. Asada, Y. Tagaya - H. Mizuyama, M. Ueda, K. Asada, Y. Tagaya (GE)*

Lunch at the restaurant "La Passerelle" *(see the Campus Map)*

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14:10 15:50	Session T31. Projects and life cycle	Session T32. Lean management	Session T33. Production systems design
	Chair: M. Taisch – Politecnico di Milano (IT) Industrialization and manufacturing steps within the product life cycle management context *S. Henry, A. Ben Khedher, A. Bouras - LIESP, Lyon University (FR)* Analysis of end-of-life vehicle processes. A case study in Sardinia *C.E. Carcangiu, P.F. Orru, M.T. Pilloni - Università degli Studi di Cagliari (IT)* Increasing project control and guidance efficiency through a time-frame simulation approach *M. de Falco, L. Falivene - University of Salerno (IT)* Advanced topics in project management process *L. Bianco, M. Caramia - University of Rome (IT)*	**Chair: J. Park - Seoul National University (KR)** Production Leveling (Heijunka) Implementation in a Batch Production System: a Case Study *L. Fonseca de Araujo, A. Alves de Queiroz - Federal University of Santa Catarina (BR)* The moderating role of JIT links with suppliers on the relationship between lean manufacturing and operational performances *P. Romano, P. Danese, T. Bortolotti - Università degli studi di Udine (IT)* Type Toyota Management Systems (MSTT) of small and medium-sized enterprises in mechanical and electrical industry S. Kluge, A. Rau, E. Westkämper - IFF, University of Stuttgart (DE) A Conceptual Model for Production Leveling (Heijunka) Implementation in Batch Production Systems *L. Fonseca de Araujo, A. Alves de Queiroz - Federal University of Santa Catarina (BR)*	**Chair: A. Dolgui – IMS, University of Bordeaux (FR)** Flow graph elaboration process in design of physical production system *S A. Dkhil, M. Barth - LGECO, INSA Strasbourg (FR)* Balancing mass production machining lines with genetic algorithms *O. Guschinskaya, E. Gurevsky, A. Eremeev, A. Dolgui - Ecole des Mines Saint-Etienne (FR)* A Top-Down Approach for an Automatic Precedence Graph Construction under the Influence of High Product Variety *S. Altemeier, D. Brodkorb, W. Dangelmaier - Heinz Nixdorf Institute, University of Paderborn (DE)* Take in account consideration of perturbations in the analysis and design of a production system *S. Aitouche, A. Kaanit, K. Mouss - University Hadj Lakhdar, Batna (DZ)*

Coffee break

16:10 17:25	Session T41. Production networks	Session T42. ICT	Session T43. Change, strategy and innovation
	Chair: S. Fuji – Sophia University (JP) Construction Logistics Improvements using the SCOR-model - The Tower Case *F. Persson, J. Bengtsson, A. Gustad - University of Linköping (SE)* Synchronizing the Supply Chain: A Practical Application of Multi-Echelon *E. Gran, E. Alfnes, K.W. Jacobsen - SINTEF Trondheim (NO)* Interoperability constraints and requirements formal modelling and checking framework *V. Chapurlat, M. Roque - Ecole des Mines Alès, Nîmes (FR)*	**Chair: F. Biennier - INSA de Lyon (FR)** A Framework for Enhancing Responsiveness in Sales Order Processing System Using Web Services and Ubiquitous Computing Technologies *M. Park, K. Shin, H. Jeong, J. Park – National University of Seoul (KR)* How to foresee and measure the effects of RFID implementation *K. Hergot, L. Skjelstad - SINTEF Trondheim (NO)* Archival case study analysis of the issues in selecting information and ICT systems for supply chains *B. Helen - Anglia Ruskin University, Cambridge (UK)*	**Chair: R. Smeds – Helsinki University of Technology (FI)** The Challenges to Change *J. Nonye Udeh - University of Warwick (UK)* Measuring the Intangible Aspects of the Manufacturing Strategy - A Case Study from the Automotive Industry *B. Henriksen, L.E. Onsøyen - NTNU Trondheim (NO)* Managing Innovation - A Multidisciplinary Scenario Development Approach *E. Urwin, M. Henshaw - University of Loughborough (UK)*

17:25	**APMS Conference Day 2 Closing**

20:00 23:30	Gala dinner at the Regent Grand Hotel de Bordeaux *(see the maps to know how to get there)*

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Wednesday 23rd September 2009

09:00 10:40	Session W11. Relationships with suppliers	Session W12. Quality	Session W13. Performance measurement and costing
	Chair: J.O. Strandhagen - Norwegian University of Science and Technology (NO) Dimensions and influencing factors for the behavior of suppliers in supplier-customer relationships *R. Riedel, N. Neumann, M. Franke, E. Mueller - Dept. of Factory Planning & Management, Chemnitz (DE)* Optimised Planning, Ranking & Selection of Suppliers: An Integrated QFD-AHP-LGP methodology *A. Bhattacharya, J. Geraghty, P. Young - Dublin City University (IR)* Multi-supplier systems with seasonal demand *E. Bulinskaya, L. Afanasyeva - Moscow State University (RU)*	**Chair: T. Koch - Wroclaw University of Technology (PL)** Analysis of Quality in Brazilian E-commerce (B2C) *P. L. de Oliveira Costa Neto, J. P. Alves Fusco, J. G. Mendes dos Reis - Teleinterativa Rede Nacional de Educaçao, Sao Paulo (BR)* Implementing six sigma in challenging times: a case study *J. Hernandez, T. Turner - University of Strathclyde, Glasgow (UK)* Development of Manufacture Support SYSTEM using Taguchi-methods *I. Tanabe - Nagaoka University of Technology (JP)*	**Chair: M. Tucci - Universita degli Studi di Firence (IT)** Proposal of a Performance Measurement System for professional Non-profit Service Organizations *M. Benedetti, S. Terzi - Università degli Studi di Bergamo (IT)* Performance measurement: questions for tomorrow *U. Bititci, P. Garengo, V. Dörfler, K. Mendibil - University of Strathclyde, Glasgow (UK)* Total Cost of Ownership Considerations in Global Sourcing Processes *R. Alard, P. Bremen, J. Oehmen - ETH Zürich (CH)* Designing and implementing a framework for process-oriented logistics costs measurement in an automotive-supplier group *G. von Cieminski, M. Karrer, M. Zur - ZF, Friedrichshafen (DE)*

Coffee break

11:00 11:45	**Keynote: The healthcare information system: perspectives and challenges** ***P. Lagouarde*** *– Production Manager, AGDF CEGEDIM RS (FR)* **Chair:** B. Vallespir – IMS, University of Bordeaux (FR)

11:45 12:45	**Closing Ceremony** **Chair:** M. Taisch – Politecnico di Milano (IT)

Lunch at the restaurant "La Passerelle" *(see the Campus Map)*

14:15	**APMS Conference Day 3 Closing**

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Meetings

Sunday 20th September 2009

14:15 **15:30**	**PPC Editorial Board Meeting (members only)** Location: University of Bordeaux 1, Building A31
15:30 **18:00**	**IFIP WG 5.7 Annual Meeting (members only)** Location: University of Bordeaux 1, Building A31

Monday 21st September 2009

14:05 **17:45**	**Special Interest Group "Service Systems meeting (open)** Location: ENSEIRB Agenda: - Goals and intention of the SIG on Service Systems - Discussion on roadmap or workplan - Thematic discussion on "Designing Service Systems – Sate of the Art and Challenges

ABSTRACTS

Doctoral symposium

General Chair: A. Bouras – LIESP, University of Lyon (FR)

Saturday 19th September 2009, 13:00 – 14:45, session 1

A model for After-Sales service systems
E. Legnani - University of Bergamo (IT)
This research project aims at revising the logistical and organisational configuration of a company operating in a service network, which normally consists of one (global) focal firm (owning a brand and/or providing a main product/service), its suppliers, a network of third party service providers and the final customer. Objective is to develop a model for the AS service system which includes: process reengineering, process measurement and dynamic analysis. From a theoretical point of view, objectives are to: (i) define the main processes and activities that make up the AS area, (ii) develop a specific PMS (KPIs and diagnostic indicators), (iii) explore the relationships among the proposed KPIs. From a practical point of view, it aims at providing an adequate and useful model for AS operations.

Strategies evaluation model in supply disruption risk management
F. Pirola - University of Bergamo (IT)
In today economical environment, supply failure has become the first supply chain risk. Common methods employed to manage supply risk are buffer-oriented methods, where buffering may concern time, capacity, inventories. These methods represent only a shield against risk and contribute to raise overall costs. A more effective method to reduce supply risk is to deeply analyze its sources and consequently undertake behavior-based strategies in order to eliminate or reduce this risk, focusing on the supplier process rather than on its outcomes. Thus, the scope of this PhD project is the supply risk and the methods that allow its impact and its occurrence probability reduction. The main object is the definition of an evaluation model to analyze the impact of buffer-based methods and behavior-based strategies on supply risk and on firm performance.

Emerging technologies for displaying data from manufacturing
M. Valas – Technical University Ostrava (CZ)
My research tasks deal with technologies, which can be used for graphical data display in a graph form from industrial or other applications. Industrial data can by displayed in a graphical form, which are usually used by three types of users. The first type of users are 24/7 users, most frequently the operational engineers, who are checking actual and displayed values and then intervene in the process or production. The second are occasional users who are interested in historical data e.g. for service and maintenance reason. The last type of users is sales people and managers. The status comparison of the few last days or some months ago helps them to make decision. Research is aimed at identifying technologies which can be used for graphical data display.

Saturday 19th September 2009, 15:05 – 16:50, session 2

Contribution to performance measurement methodology within LOLF framework
M. Badja - IMS, University of Bordeaux (FR)
Nowadays, an effective processes managing becomes a crucial challenge in the administrative domain as much as it was the spent decades in the industrial field. This new tendency was concretized with promulgation and installation of budgetary legal framework "OLFA" (Organic Law relative to the Finance Act), which frames the construction and the execution of the finance act, and associates to each public action, objectives and a set of performance indicators, which measures the effectiveness of the actions by measuring the objectives rate achievement. This paper describes a contribution to a modelling methodology for performance evaluation and administrative processes interoperability, within the framework of the OLFA.

Methodology and architecture of Long Term Knowledge Retention
T. Fei - LIESP, INSA Lyon (FR)
This paper presents the first phase of the study and research on long term knowledge retention (LTKR). The current situation and challenges of LTKR are studied. Knowledge management methodologies and tools are investigated. Standards and reference models are adapted for developing a methodology for long term digital preservation. Some repository platforms (DSpace, Fedora, EPrints) are learnt as solutions for digital preservation.

Integration of SCADA/HMI to Enterprise
P. Osadnik - Technical University Ostrava (CZ)
The main goal of the thesis is finding a method of implementing standards helping to create an environment enabling integration of new techniques into SCADA/HMI system. As a sub goal, a demonstration application in the environment of the Service Oriented Architecture using visualization tools and techniques will be created to represent implementation of ISA-95 Standard into enterprise. As a result this application will be then used for education purposes and teaching the subject Process System at Department of Control Systems and Instrumentation, VSB – TUO.

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Sunday 20th September 2009, 09:00 – 10:45, session 3

Models for the evaluation of coordination performance in a Supply Chain
Y. Ming - ENI Tarbes (FR)
Enterprises have to focus on their core business in order to better answer their customers' demands. Therefore, enterprises participate into partnerships of supply chains. Problems existing during the cooperation processes and performance evaluation for coordination gain great interests in literature. In this doctoral thesis, we focus on modeling coordination processes and performance evaluations considering influence aspects of performance and their relationships. Afterwards, performance indicators and related competence are suggested in order to better visualize the coordination performance

Modeling production processes and production management for future Energy Efficient Manufacturing
A. Cannata – Politecnico di Milano (IT)
In my research plan, I would like to investigate the Energy Efficient Manufacturing theme. The purpose is to study/develop, performance measurements and modeling techniques to represent and assess Energy Efficiency in industrial domain. Production management practices and adoption of pervasive ICT, which I consider relevant aspects to be investigated, will be also addressed within my research plan.

Towards an integration between product and production information through the PLM-MES interoperability
A. Ben Khedher – LIESP, INSA Lyon (FR)
This paper presents and discusses an analysis of the interoperability between engineering and manufacturing steps within the Product Life cycle Management (PLM) context. Initially, PLM was focused almost exclusively on the product design, but nowadays, it tends to cover all the stages of the product life cycle. In the same time, the industrialization and the manufacturing are not sufficiently integrated into the PLM solutions. Actually, there is much to be gained by extending the coverage of PLM to production stage in order to lead to interaction. The main purpose of this paper is to study how to realize interaction between PLM and production management that is ensured by the Manufacturing Execution System (MES).

Sunday 20th September 2009, 11:05 – 12:50, session 4

Increasing Motivation towards Networked Business Process Change
K. Hanninen - Helsinki University of Technology (FI)
Most modern companies operate in business networks and undertake business process development efforts with their partners. A key issue in business process development is the ability to manage change. However, change management in business networks has not yet been a widely studied phenomenon. This paper presents a doctoral research plan, which focuses on increasing change motivation in networked business process development settings. The research applies two research paradigms: qualitative case study research and action research.

Developing interoperability in collaborative process: an Anticipative Effects-Driven Approach
S. Mallek – Ecole des Mines Alès, Nîmes (FR)
This paper aims at presenting an anticipative effects-driven approach to help enterprises to enhance their ability to interoperate within collaborative processes before their implementation. This research focuses on the verification of interoperability requirements. Interoperability characterizes the aptitude to exchange and to share flow of any kinds. Thus in a collaborative context, it takes an important place for enterprise that want to improve their competitiveness in a globalized environment. This research aims to anticipate the possible effects of non-interoperability, to evaluate their impact on performance(s) or risky situations to be managed and to develop corrective actions.

Interoperability between partners in charge of controlling transportation and production activities in the supply chain
Z. Jia - IMS, University of Bordeaux (FR)
This paper presents first results in studying how to coordinate the production and transportation planning in a decentralized manner at the tactical decision level. Former works in production planning models are presented. This paper proposes a point to point delivery transportation model which takes into account changeable traffic speed in routes. An iterative negation-based approach is developed in integrating and coupling current transportation planning with production planning models.

APMS Conference

Monday 21st September 2009, 09:45 – 11:00, Session M11. Special session on "Business process and performance management of product-service systems" (1)

Chair: T. Alix – IMS, University of Bordeaux (FR)

Contribution to the definition and modelling of service and service activities

M. Badja, W. Touzi, T. Alix – IMS, University of Bordeaux (FR)

For a long time, it was highlighted that the service is intangible or immaterial; these characteristics are mainly used to distinguish the service, making it incomparable with good. The set of proposed definitions and characteristics that led to debates between specialists in economics for several years and gave place to a variety of visions and approaches are still not consensual and science engineers challenge. Goal of this paper is to present, on the one hand, the existing literature proposed by economists concerning services (definitions and specificities) and, on the other, arguments proposed by science engineers that challenge them. That study allows us to propose a generic definition of what a service is and a preliminary model of a service activity.

A structured comparison of the service offer and the service supply chain of manufacturers competing in the capital goods and durable consumer goods industries

D. Corti, A.Portioli Staudacher – Politecnico di Milano (IT)

The increasing importance of the service offer for manufacturing companies has lead to the development of different service chains and service package in different industries. The main aim of this paper is to provide a structured comparison of the service offer and configuration in the capital
goods and durable consumer goods industries. Even though the paper is mainly of a conceptual nature, the discussion is based on empirical findings collected.
Main trends of the service provision within the corresponding supply chains are also highlighted and some guidelines for the service development are introduced.

Business Process Management Systems – enabling continuous improvement in industrial services

H. Hirvensalo, J. Holmström, T. Ala-Risku – Helsinki University of technology (FI)

The paper aims to analyze the opportunities that modern business process management systems (BPMS) provide in improving industrial service processes. A case study identifies improvement opportunities in the order-tocash process in two service lines of a large industrial service provider.
Implementing a business process management system in the studied case context potentially enhances service process quality and significantly speeds up the order-to-cash process. The practical implication is that providers of industrial services should consider BPMS as a potential means to improve
profitability through a faster order-to-cash process.

Monday 21st September 2009, 09:45 – 11:00, Session M12. Special session on "Interoperable and agile production systems"

Chair: J.P. Bourrieres – IMS, University of Bordeaux (FR)

High Resolution Supply Chain Management – Resolution of the polylemma of production by information transparency and organizational integration

T. Brosze, F. Bauhoff, V. Stich – RWTH, Aachen University (DE)

High Resolution Supply Chain Management (HRSCM) aims to stop the trend of continuously increasing planning complexity. Today, companies in high-wage countries mostly strive for further optimization of their processes with sophisticated, capital-intensive planning approaches [3]. The capability to adapt flexibly to dynamically changing conditions is limited by the inflexible and centralized planning logic. Thus, flexibility is reached currently by expensive inventory stocks and overcapacities in order to cope with rescheduling of supply or delivery. HRSCM describes the establishment of a complete information transparency in supply chains with the goal of assuring the availability of goods through decentralized, self-optimizing control loops for Production Planning and Control (PPC). HRSCM pursues the idea of enabling organization structures and processes to adapt to dynamic conditions. The approach includes the strengths of the existing planning models as well as the process of decision making in organizations. A precondition for this decentralized adaptation is the synchronization of the objectives of the several units or process owners. The basis for this new PPC Model are information transparency, stable processes, consistent customer orientation, increased capacity flexibility and the understanding of the production system as a viable, socio-technical system [1, 2].

Superior Performance of Leagile Supply Networks by Application of Autonomous Control

B. Scholz-Reiter, A. Mehrsai – BIBA Bremen (DE)

Various In the paper, a special approach to supply networks' material flows is posed. The considered strategy is based on the both principles of Lean and agility, beside push and pull of materials. Here, the tradeoff between positioning of decoupling point throughout an exemplary network, and reduction of inventory level along throughput time is examined. Moreover, autonomous control for material routing and lot-sizes is taken into account. To do so, a discrete-event simulation model is developed to show the performances.

Analysis of the harmonizing potential of order processing attributes in spread production systems

D. Oedekoven, V. Stich, T. Brosze – RWTH, Aachen University (DE)

The paper discusses an approach how to measure the competitive advantage of harmonized order processing data by making use of knowledge about the interdependencies between related benefit dimensions. Corresponding harmonization projects are all projects that strive for common structures in product attributes, classification systems or product structures. The main objective of the underlying research work is the development of a method for the estimation of the benefit potential of harmonized order processing data.

Monday 21st September 2009, 09:45 – 11:00, Session M13. Special session on "Co-Evolution of Product Design and Supply Chain considering change Management Strategies"

Chair: M.Zolghadri – IMS, University of Bordeaux (FR)

Network compatibility blocs as basis of partner's selection

S. Zouggar, M. Zolghadri, D. Zhang, P. Girard – IMS, University of Bordeaux (FR)

The aim of this paper is to contribute to partner's network design beyond the common partner's selection process usually made in the literature. The originality of our approach lies in compatibility concept that comes to consolidate the ordinary approach of partner's selection. We suggest the use of product architecture to extract its related network of partners that would be analyzed with paying attention not only to the efficiency of each required partner within the network, but also to its compatibility with other actors. The gBOMO (generalised Bill Of Materials and Operations) concept becomes significant tool that we intensively use in order to detect the imperatives of realization phase of manufactured product. We will develop exploratory ideas about the network compatibility blocs. These ideas allow a better understanding of partner's compatibility requirements within network.

Knowledge based Product and Process Engineering enabling Design and Manufacturing Integration

M. Bricogne-Cuignières, F. Belkadi, M. Bosch-Mauchand, B. Eynard – Technology University of Compiègne (FR)

After presenting reminders about product and process knowledge, this paper describes a specific knowledge called in this paper "shared knowledge", which is built from a mapping between both these knowledge. Then, a specific approach based on "workers" is proposed to extract data from the different IT components, to create this shared knowledge and to capitalize for the future development projects. Finally, different industrial examples are presented to illustrate the shared knowledge capitalization interest.

Monday 21st September 2009, 11:20 – 12:35, Session M21. Special Session on "Business process and performance management of product-service systems" (2)

Chair: S. Cavalieri – University of Bergamo (IT)

A framework for product-service design for manufacturing firms

T. Alix, B. Vallespir – IMS, University of Bordeaux (FR)

Manufacturers propose services around the products they deliver to increase their competitiveness and reach objectives of profitability satisfying specific customer needs. Loyalty can be obtained under the condition that isolated offerings are replaced by integrated value adding solution composed of a product and of one or more product-service. The design of such solution requires to take account of four narrowly overlapping dimensions: the product, the product-service, the process and the organization. A challenge is to propose a model to support the firm core competence widening taking account of all the dimensions together, analyzing how they are interlinked and how they allow to design the coherent value adding solution. In this paper the two first stages of a methodology for new product-service development for manufacturing firms are presented that take account of firm's environment, core competence, processes as well as the benefits expected by service delivery and the service value.

Lean implementation in service companies

A. Portioli Staudacher – Politecnico di Milano (IT)

Service companies have been implementing Lean only in recent years. In this research three third party logistic companies and seven companies of the financial sector have been thoroughly interviewed and showed a few interesting aspects on the way they implemented Lean. They are implementing Lean in high volume low variety processes and focus on back office activities, which are most similar to manufacturing.

Focus on flow, releasing real pull systems and attention to pacing the flow are the aspects that have been less developed and considered not applicable –or not worth applying- in services.

Exploring the Causal Relationships of Key Performance Indicators in After Sales Service Systems

E. Legnani, S. Cavalieri – University of Bergamo (IT)

A plethora of research and industrial contributions emphasizes the economic and strategic role of services in adding further value to a product throughout its lifelong journey with the customer. However, there is still a limited comprehension of the dynamics underlying After-Sales (AS) processes along the whole service network - which usually encompasses a manufacturer, spare parts wholesalers/retailers and technical assistance centres - till the final user. AS can be no more considered as a mere corporate function, but rather as a series of interconnected activities involving more independent organizations, each one having different objectives and perspectives to be properly aligned. Starting from previous contributions of the same authors on this research topic, aim of the paper is to examine AS as a complex system of interlinked processes, to elaborate a proposal of the main Key Performance Indicators (KPIs) which can take into account the various perspectives of the different actors involved, and, as a main result, to explore the most relevant causal relationships among these KPIs.

Monday 21st September 2009, 11:20 – 12:35, Session M22. Relationship with customers

Chair: S. Umeda - Musashi University (JP)

A concurrent newsvendor problem with rationing

P. Roberto – University of Bergamo (IT)

The model proposed in this paper aims at identifying the best allocation of a limited quantity of product to a group of retailers supplied by a unique supplier, considering the variability of the demands faced on the market. The proposed approach aims at reducing the problem of demand inflation, inherent to many rationing policies, by considering the mean and the standard deviation of the demand faced by each retailer. Moreover it could provide managerial insights for managing concurrent retailers under availability constraints.

A model for vendor selection and dynamic evaluation

R. Iannone, S. Miranda, S. Riemma, D. Sarno – University of Salerno (IT)

The present paper proposes an evaluation model able to integrate the selection phase with the monitoring and the continuous analysis of the vendor performances. The vendor evaluation process is realised through an opportune methodology which puts beside qualitative judgements (i.e. the adequacy of the organisation or the maintenance management policies) and performance data (i.e. delivery delays, number of non conformities, discrepancies in the delivered quantities, etc.) and builds the database which will support the daily decisions of the buyers. Thanks to its generality and customisability, together with the use of basic managerial tools, the system represents an appropriate trade-off between implementation costs and obtainable benefits.

Customer Driven Capacity Setting

A. Hübl, K. Altendorfer, H. Jodlbauer, J. Pilstl – Upper Austria University of Applied Science (AT)

The purpose of this article is to develop a method for short and medium term capacity setting decisions for providing a market oriented level of available capacity for the investigated machine groups. An MTO (make to order) production system is considered. The basic concept is that the cumulative available capacity of the machine group has to be greater than or equal to the cumulative needed capacity influenced by the customer orders. The cumulative needed capacity is corrected with an operation characteristic which defines the slack of the production system, in order to include enough capacity for short term orders.

Monday 21st September 2009, 11:20 – 12:35, Session M23. Knowledge management

Chair: A. Bouras – LIESP, University of Lyon (FR)

Knowledge Based Enterprise Engineering (KBEE): a modelling Framework for Capitalization of Enterprise Knowledge

M. Moradi, M. Badja, B. Vallespir – IMS, University of Bordeaux (FR)

The main objective of this paper is to study the complementarity nature of enterprise modeling and knowledge management within the framework of enterprises. To do so, we evaluate some important methodologies in each domain and then several modeling points of view are explained. By reviewing CommonKADS, MASK, CIMOSA, and GIM methodologies and their modeling views we propose a generic framework to model knowledge in all its aspects. This framework has four modeling views namely, intent modeling, context modeling, content modeling and evolution modeling. These views are classified into several sub-elements brought together by developing meta-model in UML class diagrams. KBEE may possibly be useful both for the practitioners and scientific to deal with knowledge and its modeling in enterprises.

The Knowledge Dimension of Production Transfer

J. O. Riis, B. V. Waehrens, E. S. Madsen – University of Aalborg (DK)

Empirical studies in three industrial companies have revealed that even companies with many years of experience in production transfer tend to focus attention on planning the physical transfer and on the explicit knowledge associated with normal production. They are uncertain about capturing, transferring and developing tacit knowledge. Supported by studies in the literature it is concluded that there is a need for a more systematic approach to knowledge transfer and development to provide an accelerated ramp-up after the physical transfer. A framework will be structured around a generic set of phases of the transfer process, and a distinction between the sending and the receiving organizational unit. A method for capturing the tacit knowledge embedded in a production job has been developed and tested. The framework and the method will provide a basis for preparing a master plan for knowledge transfer and development.

Monday 21st September 2009, 14:05 – 15:45, Session M31. Special session on "From single to networked enterprises performance measurement and management"

Chair: Y. Ducq – IMS, University of Bordeaux (FR)

Integration of requirements for Performance Indicator System definition and implementation methods

M. Ravelomanantsoa, Y. Ducq, B. Vallespir – University of Bordeaux (FR)

The topic of Performance Measurement and Management has been investigated for more than twenty five years leading to more than thirty five methods around the world, developed either by researchers or more pragmatically by practitioners, in order to define and implement indicators. Most of them are more

oriented for the definition and few for the implementation. Other are simply a list of recommended PI's. Several studies have been done to compare some of these methods and to explain the reasons of PI's implementation failures. The objectives of this paper is to go deeper in detail in the comparison and in a second time to define a generic framework that could help to detect what should contain a generic method for Performance Indicator System definition and implementation and what is the knowledge that must be included in this kind of method to be more efficient.

Innovation Management in European Projects

B. Monnier – Monnier Innovation Managemen (FR)
M. Zolghadri – University of Bordeaux (FR)

Companies need innovation to increase their market share and profit margin. Innovation is the successful product put on the market using a new idea. At the beginning of the process, it is not simple to evaluate if the novelty will be or not an innovation. It is in general after launching and selling the new product that the innovation level can be assessed. This paper addresses one main issue: "How to anticipate the innovation performance for the decision making process?". It suggests a method to measure the innovation level of a product or a service, based on MIM© (Monnier's Innovation Matrix). This tool could be used for decision making process to support marketing and corporate strategy or a collaborative research project. The added value of this method is that it allows to manage innovation projects. As far as we know, this problem has never been addressed before. The only document, which could be mentioned in this field, is the "Oslo Manual" from European Community. This document is more focused on the innovation issued by technology than services and it concerns large organisation. The MIM tool can also be used as a criterion for advanced partners selection paradigm.

Understanding process quality in the context of collaborative business network structures

P. Sitek, N. Zarvić, M. Seifert, K.D. Thoben - BIBA Bremen (DE)

Demanding customer requirements have led to the situation where products are realised in collaborative business networks by different cooperating companies. In an extreme case such networks exist only for one specific customer order. Such temporary and dynamic organisation forms make new demands on Quality Management (QM) approaches. Existing QM practices mostly focus on assuring and improving quality of standardised processes inside single companies or long-term relations between business partners in supply chains. This paper discusses in particular the exchange of quality-relevant information flows and processes in the different constellations of collaborative business networks that are conceivable in real life.

A comprehensive approach for the production management of enterprises operating in collaborative networks including performance analysis, provision of incentives and allocation of income

H. Jähn, T. Burghardt - Chemnitz University of Technology (DE)

This conceptual paper introduces an innovative concept for the operative controlling of enterprises operating in order-specific configured collaborative networks. This approach includes methodologies for income allocation based on the realised performance and includes incentive mechanisms as well. Therefore a concept for the order-specific performance analysis has been developed. By the help of that approach new impulses are available for the short-term oriented enterprise management and controlling.

Monday 21st September 2009, 14:05 – 15:45, Session M32. Special session on "New practices in transportation and logistic organisations"

Chair: J.C. Deschamps – IMS, University of Bordeaux (FR)

EURIDICE - A services framework and communication platform for applying the vision of "intelligent cargo" in logistics

J. Schumacher, M. Gschweidl, M. Rieder, T. Bargetz - Vorarlberg University of Applied Sciences (AT)

The EU funded project EURIDICE tries to fulfill the vision of "intelligent cargo" in the logistics sector. It consists of a communication platform based on single services for collaboration of stakeholders in logistics chains but also communication with the cargo. The final paper will introduce the concepts of the platform and how different current challenges in the logistics sector are addressed and future challenges can be solved.

Decision making tool for the selection of Urban Freight Transport project

N. Malhéné, D. Breuil- EIGSI, La Rochelle (FR)

The control of transport is a very current preoccupation in a context of sustainable development. Nuisances associated to Urban Freight Transport (UFT) force politicians to propose measures relevant to sustainable development of the city. Nevertheless they should keep in mind the efficiency of UFT which renders the implementation of new projects quite difficult. We propose to transpose systemic approach to UFT problematic and to develop a global approach for the management of the evolution of City Logistics. Our first propositions in the domain conduce to the development of a tool allowing politicians to determine UFT solution coherent with their objectives.

Making PROFIT at the Intermodal Terminal– a Research Agenda

T. Netland, I. Spjelkavik - SINTEF Trondheim (NO)

Intermodality has been a hot topic in the logistics sector for several decades, but the expected diffusion into business is still limited. The key to increased intermodalism lies at the intermodal terminal. This paper puts forward four literature-based propositions that should be part of the future research agenda for intermodal terminals. In order to realise the intermodal terminal of the future, there is a need to: (P1) develop an effective operative terminal system, (P2) develop a holistic performance measurement system for the terminal, (P3) develop cooperation models for the network actors, and (P4) develop new value increasing services at the terminal.

The Value of Lead Logistics Services

O. Schneider, A. Lindner - ETH Zürich (CH)

Logistics Services are one of the most outsourced functions within a supply chain. This is due to easily transferrable know-how and traceable direct cost reductions, which directly impact the profit and loss statement. However, an effective management of materials and transportations on the supply and deliver side also carries indirect benefits by positively influencing the cash flow and the amount of capital locked up in inventories. Therefore, it also affects the balance sheet and the company's profitability. This paper describes an approach to make these effects transparent and traceable, by linking operational performance to the resulting changes in working capital. Having transparency on the direct and indirect effects fosters the service relationship and allows for new pricing concepts which carry advantages for

both service provider and customer. The approach was developed in a collaborative action research project with a world leading provider of lead logistics services.

Monday 21st September 2009, 14:05 – 15:45, Session M33. Special session on "Agent Modeling, Distributed Simulation & Control Frameworks for Production Management Systems"

Chair: G. Zacharewicz – IMS, University of Bordeaux (FR)

Multi agent/HLA enterprise interoperability (short-lived ontology based)

G. Zacharewicz, O. Labarthe, D. Chen, B. Vallespir - IMS, University of Bordeaux (FR)

This paper aims at proposing an implementation of the Federation oriented Enterprise Interoperability concept, using Multi Agent / HLA paradigm and the rising notion of Short-Lived Ontology. We give first, a review of ongoing researches on Enterprise Interoperability. Then, we recall on Artificial Agent Concept and HLA Standard that appear to be adequate to sup-port execution of the studied concept. Indeed, on the one hand Agent dialogue fits the concept of information exchange in a federated enterprise interoperability approach, on the other hand the HLA standard, initially designed for military M&S purpose, can be transposed for enterprise interoperability at the implementation level, reusing the years of experiences in distributed systems. From these postulates, we propose the first Agent/HLA framework Short-Lived Ontology based to implement distributed enterprise models from the conceptual level of federated enterprise interoperability approach.

Model based on Bayesian Networks for Monitoring Events in the Supply Chain

M E. Fernandez, H. Salomone, O. Chiotti - INGAR - CONICET Santa Fe (AR)

The execution of supply process orders in a supply chain is conditioned by different types of disruptive events that must be detected and solved in real time. This requires the ability to proactively monitor, analyze and notify disruptive events. In this work we present a model that captures this functionality and was used as the foundation to design a software agent. A reactive-deliberative hybrid architecture provides the ability to proactively detect, analyze and notify disruptive events that take place in a supply chain. For the deliberative performance of the agent, a cause-effect relation model based on a Bayesian network with decision nodes is proposed.

Simulation Model Driven Engineering for Manufacturing Cell

G H. Hibino - Japan Society for the Promotion of Machine Industry (JP)
T. Inukai, Y. Yoshida - DENSO Wave Incorporation (JP)

In our research, the simulation model driven engineering for manufacturing cell (SMDE-MC) is proposed. The purposes of SMDE-MC are to support the manufacturing engineering processes based on the simulation model and to extend the range of control applications and simulation applications using the PC based control. SMDE-MC provides the simulation model which controls and monitors the manufacturing cell directly using PC based control in the manufacturing system execution phase. Then when the simulation model acts in response to its behaviors, the manufacturing system is controlled by synchronizing the simulation model behaviors. In the manufacturing system implementation phase, the simulation model is mixed and synchronized with real equipment, real controllers, and management applications under a condition where parts of equipment, control programs, and manufacturing management applications are not provided in a manufacturing system.

VirtES (Virtual Enterprise Simulator): a proposed methodology for enterprise simulation modeling

G. Davoli , S. A. Gallo, R. Melloni- University of Modena and Reggio Emilia (IT)

In this paper a methodology to develop simulation models is presented. The methodology is based on a multi-level simulation model which allows flexibility and process analysis. The present work starts from applied researches in different SME enterprises. Enterprise management often needs easy and fast developed tools to increase production capacity and flexibility. In many cases performances increase is possible only adopting a BPR (business processes reengineering) approach. Nevertheless the resistance to a BPR approach is underlined in recent bibliography. The proposed approach consists of a three stages methodology, named VirtES (Virtual Enterprise Simulator). VirtES methodology was first applied to ceramic tiles enterprises. The results achieved encourage the adoption to other industrial field.

Monday 21st September 2009, 16:05 – 17:20, Session M41. Substainability

Chair: P. Falster - Technical University of Denmark (DK)

From Product End-of-life Sustainable Considerations to Design Management

N.Duque Ciceri, M. Garetti – Politecnico di Milano (IT)
S. Sperandio – IMS, University of Bordeaux (FR)

Better understanding of the current product End-of-life sustainable practices leads to important feedback for the design of more "sustainable" so called eco-products, by identifying the design improvements that reduce the impact of manufactured goods on the environment and society. In this paper, we propose a way to assess the impact on product design that ultimately helps on deciding the product characteristics required for a desired End-of-life (EOL) practice (i.e. reuse, recycle, remanufacture, etc). Categories and criticality scales of impacts of these practices on the product design stages are proposed. Then, a framework is proposed to provide designers with guidance on how to proceed towards taking into account the impact of the sustainable requirements.

A Conceptual Framework for Sustainable Manufacturing by Focusing on Risks in Supply Chains

M. Nakano – University of Keio (JP)

Sustainable manufacturing is becoming a popular concept. However, the definition is not clear, and technical approaches are not specified in conventional studies.
This study proposes a conceptual framework for understanding sustainable manufacturing from the viewpoint of risks in manufacturing enterprises and supply chains. Two aspects of sustainable manufacturing are defined: manufacturing for a sustainable society and sustainability of the manufacturing sector.
A technical approach is relevant to visualization techniques in systems engineering. The study categorizes risk and sustainability factors of manufacturing enterprises into four sections: internal, supply chain, manufacturing, and global society. Inter-sectional analysis is important for resolving environmental issues. In addition, this study categorizes methods for risk management corresponding to different time scales and frequencies.

Introducing Energy Performances in Production Management: Towards Energy Efficient Manufacturing

A. Cannata, M. Taisch – Politecnico di Milano (IT)

Energy consumption is one of the main economic, environmental and societal issues. As stated by recent researches, manufacturing plays a major role in energy consumption. To react to this situation and to go towards Energy Efficient Manufacturing, several initiatives are on-going. One relevant lever that is discussed in this paper and that should be taken into consideration is production management. Present production planning and control policies, which are used to optimize manufacturing processes, do not take into consideration energy efficiency. In this paper, we investigate energy efficiency performance indicators on one side and production scheduling and control practices on the other side. The purpose is to highlight this research gap in literature and start defining next steps towards Energy Efficient Manufacturing.

Monday 21st September 2009, 16:05 – 17:20, Session M42. Risks and uncertainty

Chair: L. Lendryova - Technical University of Ostrava (CZ)

The Impact of Behavior-Based Strategies on Supply Uncertainty

P. Fabiana, P. Roberto – University of Bergamo (IT)

Today's economical environment encompasses a high level of uncertainty, which affects decision makers capability in predicting future events, their occurrence probability and possible decision outcomes. A common way to guard against uncertainty is holding inventory in order to ensuring business continuity and on-time delivery to customer, buffering the effect of the risk. This method belongs to the buffer-oriented techniques that represent only a shield against uncertainty and contribute to raise the overall costs. A more effective way to reduce supply uncertainty is to deeply analyze its sources and try to reduce its occurrence probability adopting behavior-based strategies. A Systems Thinking model, aiming at explaining the logical relationships among different strategies and at analyzing their impact on supply uncertainty and total costs, is presented.

MRP offsetting for assembly systems under random component delivery times

M. A. Louly – King Saud University (SA)
A. Dolgui – Ecole des Mines Saint Etienne (FR)

This paper considers component supply planning in assembly systems where several types of components are needed to produce one finished product. The actual component lead times have random variables. MRP approach with Periodic Order Quantity (POQ) policy is used. The aim is to find the optimal MRP offsetting. The proposed model and algorithms minimize the sum of the setup and average holding costs for the components, while satisfying a desired service level.

Monday 21st September 2009, 16:05 – 17:20, Session M43. Maintenance, inspection and monitoring

Chair: J. Frick - Stavanger University (NO)

Towards a maintenance and servicing indicator

P. Vrignat, M. Avila, F. Duculty – Institut PRISME, University of Orleans (FR)
F. Kratz – Institut PRISME, ENSIB (FR)

This paper deals with a tool which may help maintenance manager to schedule maintenance activities. To help him, we show that by using events which can be observed on a process, like maintenance events, we can predict failures before they occur. Principles are based on the hypothesis that failure is preceded by a typical sequence of events. We also show that Hidden Markov Models can be used according to a good choice of parameters.

A Three-Level Petri Net to Support VR-based Interactive Maintenance Procedure Training

T. L. Sun, P. H. Hsieh, T. W. Huang – Yuan Ze University (TW)
W. Y. Feng – Chung Yuan Christian University (TW)
C. J. Chao – National Tsing-Hua University (TW)

Maintenance training familiarizes product support industria engineers with the complicated disassembly sequences involved in a maintenance task. Virtual reality (VR) technology has been proposed as a promising tool to construct low-cost and safe maintenance training environment. In VR-based interactive maintenance procedure training, the trainees interact with objects in a virtual environment to conduct a sequence of maintenance operations by themselves without any guide from the system. One challenge task in developing such VR-based training environment is that the interactions programming is usually extensive and complicated. To support interaction programming in virtual maintenance training, a three-level Petri net (PN) is proposed. Details of the PN design and the use of PNs to control the VR simulation in maintenance training are explained in the paper. A system prototype is developed to show the feasibility and effectiveness of the threelevel PN-based VR training architecture and approach.

Monitoring of Collaborative Assembly Operations: an OEE Based Approach

S. Kivikunnas, E. M. Sarjanoja, J. Koskinen, T. Heikkilä – VTT Oulu (FI)

In this paper we present requirements and concept generation principles for performance monitoring of a collaborative assembly task. Life cycle aspects are considered and an Overall Equipment Efficiency (OEE) based monitoring scenario for a developed passive collaborative robot (COBOT) test system is presented. In this case main benefits of applying COBOT are expected to be: improved productivity, improved quality, reduced production cost and improved ergonomics. Since human and COBOT are working cooperatively human actions have also affects on process performance, i.e. OEE. However a human's and machines or a COBOT's efficiency are undistinguishable directly from OEE factors. It is possible to infer cause of lower efficiency from the variables from which OEE factors are calculated. One such variable is cycle time, which is used to define performance efficiency.

The Value of Sampling Inspection in a Single-Period Remanufacturing System with Stochastic Returns Yield

C. Zikopoulos, S. Panagiotidou, G. Nenes – Aristotle University of Thessaloniki (GR)

We examine a reverse supply chain consisting of a collection site, where consumers return used products, and a remanufacturing facility. Some of the returned products are transported to the remanufacturing facility in order to be remanufactured and used to satisfy the stochastic demand for remanufactured products. The quality of returns is characterized by uncertainty, and therefore, before the procurement quantity determination, the remanufacturer has the alternative to inspect a sample drawn from the collected quantity in order to evaluate more accurately returns' quality. Using general assumptions for returns quality and remanufactured products demand distributions, we formulate the expected profit function for both sampling and no-sampling cases and we examine numerically the economic effectiveness of sampling. A key characteristic of the current paper is that returns' yield is expressed as the probability of a unit to be remanufacturable.

Tuesday 22nd September 2009, 09:40 – 10:40, T11 Session Services (1)

Chair: S. Childe – Exeter University (UK)

The Concept of Modularisation of Industrial Services

F. Seite, O.Schneider, A. Nobs – ETH Zürich (CH)

The paper summarises findings from an action research project on modularisation of industrial services. Based on literature about modularisation of physical goods and literature on modularisation of services, several research gaps are highlighted and appropriate approaches discussed. Module drivers addressing modularisation benefits are transferred to services. Interdependencies among service elements are resented. Research gaps on design opportunities of modular service products are addressed and possible analogies from modularisation of physical goods are introduced.

A Multi-Dimensional Service Chain ecosystem model

F. Biennier, R. Aubry, Y. Badr – LIESP, INSA Lyon (FR)

To fit the renewed globalised economical environment, enterprises, and mostly SMEs, have to develop new networked and collaborative strategies. Such collaborative networks are by now often based on trusted and well known communities. Developing large scale networked and collaborative strategies involve increasing the IT support agility and interoperability. At the international level, the European Union promotes clearly solutions to support and favor innovative business networks on the basis of an internet of services in the FP7 work program.. The results accumulated by these various projects provide a consistent environment (including design, methods and developments related to Enterprise Service Bus (ESB) technology in evolving environment) to support, at a technological level, Business Service oriented organizations and the large-scale reinforcement of collaborative business and networked organization strategies thanks to services and internet technologies. Nevertheless these research works are mostly focused on an IT vision without taking into account the business constraints. To overcome this limit, we propose a multi-dimensional service-chain ecosystem model, paying attention on service functional and non-functional properties description to support an efficient and consistent business service selection and composition process so that large-scale service based collaborative organization can emerge.

Hypergraph of Services for Business Interconnectivity and Collaboration

A. Esper, Y. Badr, F. Biennier – LIESP, INSA Lyon (FR)

Due to the impacts of structural market evolution (globalization, sustainable growth, mass customization, product-service development…) enterprise are more and more focusing on their core business, developing outsourcing and collaborative strategies to support value-added customized product-service for the customers. This involves developing agile and interoperable information system. To achieve this goal, Service Oriented Architecture has been introduced to support systems interconnection by mean of service composition. Nevertheless, this approach do not integrate service contextual configuration so that different services must be defined according to the context, leading to un-consistent systems. To overcome this limit, we propose a Model Driven Engineering approach to support contextual service refinement. Thanks to an hypergraph organization of the different partial models, services can be contextually instantiated and contextual information can be either inherited from the global model or propagated through the service chain.

Lean first, then automate: an integrated model for process improvement in pure service-providing companies

T. Bortolotti, P. Romano, B. Nicoletti – Università degli studi di Bergamo (IT)

Born in manufacturing environment, only recently Lean Management has been implemented in service context. However, in literature we didn't find a strong empirical evidence to clarify how Lean Management can be applied in a pure-service context, such as banking/financial services, where there is an intensive use of automation and Information Technology Systems. This work aims to define a methodology to streamline and automate processes and reduce waste in the pure service-providing companies. To achieve the study aims we conducted three case studies. Based on the empirical investigation, a framework was developed. We found out that the automation of a process not streamlined can generate problems that can slow down the flow and increase errors. A process must be mapped to highlight waste. Only when the new process is streamlined it can be automated. In doing so the new process will automate only value-added activities recognized by the customers.

Tuesday 22nd September 2009, 09:40 – 10:40, T12 Special Session on "Cooperative supply chains: models and challenges"

Chair: M. Nakano - Keio University (JP)

A study on VMI-based supply-chain system by simulation analysis

S. Umeda – Musashi University, Tokyo (JP)

This paper describes simulation methodologies for VMI system. Evolution of information and communication technologies such as Internet has enabled firms to exchange frequent high-volume data in business communication. VMI system is currently focused as a new method, which reduces inventories in supply chains. This paper discusses two types of VMI system. The models and simulation analyses would described by using test cases.

How do the key determinants of a distributed planning process impact on the performance of a supply chain?

J. Francois, U. Okongwu, J.C. Deschamps, M. Lauras – IMS, University of Bordeaux (FR)

As firms search to maximise value through the effective management of their various business activities, it is increasingly important to identify and understand the key factors that can significantly impact on the performance of the supply chain. The Supply Chain Operations Reference (SCOR) model enables to identify four distinct processes (plan, source, make and deliver) that constitute a supply chain. If many researchers have studied the last three processes (source, make and deliver), the relationship between the determinants of the planning process and supply chain performance has not been sufficiently explored. This paper therefore aims to identify and analyse the determinants of a distributed planning process that impact on the performance of a supply chain, including both financial and non-financial elements. It proposes a conceptual framework and a simulation model that can be used to improve the performance of a supply chain in terms of efficiency, flexibility, effectiveness and responsiveness.

The Application of Lean Production Control Methods within a Process-Type Industry: The Case of Hydro Automotive Structures

D. Powell, E. Alfnes, M. Semini – RWTH, University of Aachen (DE)

Lean production has lead to substantial improvements in performance across many industries and is widely implemented today. Certain aspects of lean such as the focus on workplace organisation (5S) and total productive maintenance (TPM) have been applied to all types of industrial processes, while lean production control methods have mostly been applied in discrete and repetitive, assembly-type production. We believe that the real benefits of lean, for example throughput time and inventory reduction, are only realised when lean production control methods are implemented effectively. Therefore, we investigate the traditional lean production control methods of Heijunka and Kanban, and evaluate the concept of every product every (EPE) as an alternative lean production control method for the process-type industries.

A data aggregation methodology to assess the global production capacity of complex supply chains

F. Pereyrol, J.C. Deschamps, J. François, P. Farthouat, R. Dupas – IMS, University of Bordeaux (FR)

Nowadays, no decisional tools allow to assess if an unforeseen customers demand variation should be accepted without creating material disruptions among a supply chain or not. The main difficulty consists in aggregating resources capacities, especially if resources perform different tasks with multiple items. This paper then proposes a data aggregation methodology based on graph analysis in order to assess the global production capacity of complex resources networks, like supply chains.

Tuesday 22nd September 2009, 09:40 – 10:40, T13 Session Production processes

Chair: H. Dreyer – SINTEF (NO)

Integration of supplier and customer's production Processes

M. Eisler, R. Horbal – Wroclaw University of Technology (PL)

This paper is based on the findings from the project funded by the Ministry of Science and Higher Education of Poland. It presents the application of value stream mapping in supply chains and some inadequacy of this method for supply chain integration. Based on the findings, a new Supplier Customer Production process Integration SCPI methodology is proposed. The paper presents problems with integration of companies within the lean supply chain. Usually separate actions are undertaken by the companies within the same supply chain to implement lean management philosophy for production systems and external logistics processes. These isolated activities may lead to pushing inventories from one supply chain partner to another instead of reducing them. To reduce inventories along the supply chain the new approach of production and logistics process improvement needs to be applied. The new concept must take into consideration influence of local improvements in one plant on another cooperating enterprise as well as on the logistics system between them.

Methodology of designing disassembly and reassembly processes using Lean Thinking approach

T. Kanikuła, T. Koch – Politechnika Wroclawska (PL)

In this paper a conception of using Lean Manufacturing methodology in disassembly and reassembly processes (Remanufacturing) is presented. Nine scenarios of material and information flows in Remanufacturing processes were developed in order to cover most of possible real situations.

Evaluating Energy Efficiency Improvements in Manufacturing Processes

K. Bunse, J. Sachs, M. Vodicka – Center of Enterprise Sciences (CH)

Global warming, rising energy prices and increasing awareness of "green" customers have brought energy efficient manufacturing on top of the agenda of governments as well as of industrial companies. The industrial sector still accounts for about 33% of the final energy consumption. This paper will contribute to a more energy efficient manufacturing by demonstrating how energy efficiency can be integrated into different levels of decision-making in companies. The paper will present methods for measuring and evaluating energy efficiency improvements in manufacturing processes. Different Key Performance Indicators (KPI) will be considered and economic evaluation methods will be outlined. Moreover, an example of the integration of energy efficiency aspects into the Balanced Scorecard (BSC) will show how energy efficiency improvements in the manufacturing process can be facilitated by influencing the tactical and operational level of decision making.

Integrated Micro Process Chains

B. Scholz-Reiter, N. Brenner, A. Kirchheim – University of Bremen (DE)

High quality mechanical manufacturing of small components and subassemblies having geometric features in the micrometer range requires controlled and coordinated processes. Considering full automation of the production process as essential, not only manufacturing processes have to be optimized but also handling and quality assurance operations take an integral part of the production

process. We outline requirements for handling and test operations in micro production and introduce a concept of an integrated micro process chain which meets the conditions and challenges in micro production process planning.

Tuesday 22st September 2009, 11:00 – 12:40, Session T21. Services (2)

Chair: A. Portioli - Politecnico di Milano (IT)

Health Care Provider Value Chain

L. Kawczynski, M. Taisch – Polytechnic of Milan (IT)

In every society there is a need for an efficient health care system. This paper aims to propose a value definition and a value chain model within the health care. In order to define value patients and experts were surveyed. The proposed definition offers a complex way of looking at the value within the health care sector. The proposal of the value chain model is anticipated with a value stream mapping activities and experts interviews. Proposed model offers consistent way of looking at the value chain from health care provider perspective.

Health Care Provider Processes Analysis

L. Kawczynski, M. Taisch – Polytechnic of Milan (IT)

In every society there is a need for an efficient health care system. This is a case study paper that summarizes process analysis performed at a US provider clinic. This paper provides an analysis of factors (arrival accuracy and no shows) influencing main processes within the clinic. The numerical relations between influencing factors and key processes are exhibited. Moreover, the abilities of a health care provider to deal with variations of arrival time are exhibited. The predicted probabilities for arrival accuracy and no shows are discussed. The paper provides an interesting statistical approach to analyze operations of a health care provider, which can be beneficial for stakeholders of the clinic.

Networked service innovation process in the production of a new urban area

E. Väyrynen, R. Smeds – Helsinki University of Technology (FI)

When a newly completed urban area does not conform to the visions, this brings disappointment for the residents and losses for the service providers in the area. In order to specify process innovations required in urban development, we conceptualise new urban areas as service innovations, and compare urban development to new service development. We conclude that developing urban areas as a process of customer-oriented service development and production is likely to lead to the satisfaction of all stakeholders.

Implementing Lean into a servicing environment

R. Ritchie, J. Angelis – OM Group, WBS (UK)

The study provides a description of what Lean means in a service context, focused on the energy sector. The study covered a range of operational processes, including TQM, Six Sigma and freestanding benchmarking and Kaizen initiatives. A divide between managers actively implementing Lean and those that are not is clear in both survey results and interviews; this divide is driven wider by the misunderstanding of what is actually being implemented, sometimes inappropriately assigned as Lean. Moreover, only a core of Lean manufacturing attributes are carried through into services: waste removal, responding to customer demand and increased breadth of communications in the firm. The study also finds that Lean is consistently confused with Six Sigma, but that this does not negatively impact the Lean implementation.

Tuesday 22st September 2009, 11:00 – 12:40, Session T22. Supply chains operation management

Chair: H. Jagdev - Manchester University (UK)

Supply chain reactivity assessment regarding two negotiated commitments: Frozen horizon and flexibility rate

A. Amrani-Zouggar, J. C. Deschamps, J. P. Bourrières – IMS, University of Bordeaux (FR)

The problem addressed in this paper is the supply chain reactivity assessment through numerical experimentations regarding specifically two negotiated commitments within supply contract: the frozen horizon and flexibility rate. Analysis of impact of these commitments on each partner will be depicted in term of storage costs, reliability and reactivity indicators. The decision making inside each partner is operated under rolling horizon planning and based on production linear programming model wherein different contractual commitments are included. To carry out experimental scenarios, simulation platform is developed from which expecting numerical results afford deciders to get more understanding about the commitments that should be contracted and the relevant dimensioning of them.

Principles for Real-time, Integrated Supply Chain Control: an Example from Distribution of Pharmaceuticals

H. C. Dreyer, Anita Romsdal – NUST Trondheim (FI)
J. O. Strandhagen, Annette Hoff – SINTEF Trondheim (FI)

This paper investigates how to control an integrated supply chain based on demand-driven principles and sharing of real time information. A set of principles to support a unified supply chain control model is proposed based on theory and previous and ongoing research and illustrated in a case example from the pharmaceutical industry. Essential elements include application of pull-based control principles, automated decision support, advanced visualisation, and automated replenishment concepts. Expected effects include improvement of supply chain speed and reliability, and reduced resource consumption. However, implementation challenges associated with financial, political and trust issues in supply chain relationships remain.

Capacity Adjustment through Contingent Staffing Outsourcing

G. Neubert – ESC St Etienne (FR)
P. Adjadj – Wincanton La Verpillière (FR)

For a long time, contll1gent staffing was considered as the responsibility of the Human Resource department. The high needs of workforce flexibility combined with disseminated agencies have led some companies to a great number of labor suppliers. This situation has produced important cost variation, poor quality of service, and important risk due to the misunderstanding by local managers of legal considerations. To face this situation, companies have started to move from a HR consideration to a purchasing one. This paper deal with the problem of sourcing contingent workers as a supply chain management issue: to secure and optimise the sourcing of non permanent workers, companies need to involve different departments within the organisation and to develop an optimise business process with

some preferred suppliers. A case study developed with Wincanton finally illustrates the benefit of identifying the needs and outsourcing to a unique service provider such a sourcing process.

Coordination in Supply Chains: from case studies to reference models

Y. Ming, R. Houé, B. Grabot – ENI Tarbes (FR)

Intensive competition has forced companies to focus on their core business and participate in more and more complex supply networks. The necessity to preserve the autonomy of each partner makes that such networks are usually managed in a decentralized way. Consequently, problems and conflicts emerge during the coordination processes. This paper describes some coordination problems identified through interviews and locates them within the activities of the coordination processes. We also suggest interpretation of the aspects which influence coordination allowing better explaining the origins of these problems.

Tuesday 22st September 2009, 11:00 – 12:40, Session T23. Production management

Chair: F. Persson – Linköping Institute of Technology (SE)

Improvement tools for NEH based heuristics on permutation and blocking flow-shop scheduling problems

R. Companys, I. Ribas, M. Mateo – Universidad Politécnica de Cataluña (ES)

In this paper, two tools to improve the performance of the NEH-based heuristics for the flow shop problem with and without buffer constraints are proposed. The first tool is the use of the reversibility property of the problems considered and the second one is a new tie-breaking strategy to be use in the insertion phase of the NEH heuristic. In addition, we have analyzed the behavior of five initial solution procedures for both problems. The analysis of results confirms the effectiveness of the measures proposed and allows us to recommend the best ordering procedure for each one of the problems.

A Basic Study on the Installation of Distributed Autonomous Production Scheduling System in Ubiquitous Environment

S. Fujii, T. Motohashi, T. Irohara, Y. Miyamoto – Sophia University Tokyo (JP)

This paper considers an auction-based scheduling system in a job shop equipped with ubiquitous network environment to cope with dynamically changing market demands. Under such environment all machines and jobs are assumed to have computing and communication devices and can serve as intelligent agents. The functions for an auctioneer and for a participant are investigated to install the scheduling system as a distributed multi-agent system. The systems sending and receiving messages for the auction form a distributed system on a network, enabling an autonomous scheduling.

Experimental Evaluation of Inventory-Based Discrete-Updating Market Maker for Intra-Firm Prediction Market System Using VIPS

H. Mizuyama, M. Ueda, K. Asada, Y. Tagaya – Kyoto University (JP)

This paper develops an intra-firm prediction market system as a collective-knowledge-based forecasting tool for a company and evaluates its performance through laboratory experiments. The system uses the variable-interval prediction security (VIPS) as the prediction security to be traded in the market and is controlled by an original computerized market maker suitable for the security type. The market maker evaluates each unit of VIPS with a Gaussian price distribution and updates the distribution intermittently through an inventory-based updating logic according to the transactions in the market. Laboratory experiments are conducted with a virtual demand forecasting problem to study whether the system functions properly as a subjective forecasting tool. The experiments confirm that the system is capable of penalizing arbitrage actions and hence its performance is fairly stable. Further, the output price distribution can serve as an approximate forecast distribution.

Database Scheme Configuration for a Productline of MPC-TOOLS

B. Klöpper, T. Rust, B. Vedder, W. Dangelmaier – University of Paderborn (DE)

Data model, planning restrictions, and objectives related to manufacturing planning and control (MPC) strongly depend on the given production process and workshop. In our opinion, these individual properties are the reason, why standard software fails to properly support decisions in MPC. In this paper, we introduce a platform, which enables a configuration process to create affordable individualized MPC software from existing software components.

Tuesday 22nd September 2009, 14:05 – 15:45, Session T31. Projects and life cycle

Chair: M. Taisch – Politecnico di Milano (IT)

Industrialization and manufacturing steps within the Global Product Lifecycle context

A. Ben khedher, S. Henry, A. Bouras- LIESP, Lyon University (FR)

This paper presents and discusses an analysis of the industrialization and manufacturing steps within the Product Life cycle Management (PLM) context. Initially, PLM was focused almost exclusively on the product design, but nowadays, it tends to cover all the stages of the product life cycle. In the same time, the industrialization and the manufacturing are not sufficiently integrated into the PLM solutions. Actually, there is much to be gained by extending the coverage of PLM to production stage in order to lead to interaction. This coverage depends on several features (for instance the frequency of product data modification). It also leads to an information exchange then to a classification of these information into categories. The main purpose of this paper is to study how to extend the PLM coverage of the life cycle stages by defining a mapping between information categories and the Information Systems (IS), which manages product manufacturing, for each feature.

Analysis of End-of-Life Vehicle Processes.A Case Study in Sardinia

C.E. Carcangiu, P.F. Orrù, M.T. Pilloni - Università degli Studi di Cagliari (It)

The present work aimed at giving a review of the end-of life phase for motor vehicles, providing accurate process modeling, indicating critical aspects, and finally suggesting improvements. For the study, one of the principal dismantler in Sardinia (Italy) was considered. The main innovation is the bottom-up approach to the problem; this was carried out by field observing the process activities and sharing the criticalities identification with the actors. The study has confirmed that the simplicity of disassembling the components and the ease of identification of the different materials to be separated is fundamental for an efficient dismantling of motor vehicles. It is finally crucial that the dismantling processes, being highly complicated, mainly involve the same manufacturers.

Increasing Project Control and Guidance through a Time-frame Simulation Approach

M. de Falco, L. Falivene - University of Salerno (IT)

Nowadays projects dynamicity and complexity make the control process highly critical. The existing planning and control techniques have frequently proved inadequacy to manage the present challenge. The paper proposes a simulative approach to managing with more effectiveness projects life cycle. The appositely developed simulation model is populated with both deterministic and stochastic elements: the formers come from the project plan; the stochastic elements have been introduced in order to consider the probabilistic nature of activities duration. In the planning phase the model generates a "baseline pencil" that gives a more confident estimation of the time to complete the project. During the execution phase the model is able to store the data related to the ongoing activities and updates in real-time the estimation of the project completion. Concurrently, it allows the calculation of specific performance indexes which permit to identify in real-time possible occurring "warnings" to users and suggest potential solutions.

Advanced Topics in Project Management Process

L. Bianco, M. Caramia - University of Rome (IT)

Nowadays projects dynamicity and complexity make the control process highly critical. The existing planning and control techniques have frequently proved inadequacy to manage the present challenge. The paper proposes a simulative approach to managing with more effectiveness projects life cycle. The appositely developed simulation model is populated with both deterministic and stochastic elements: the formers come from the project plan; the stochastic elements have been introduced in order to consider the probabilistic nature of activities duration. In the planning phase the model generates a "baseline pencil" that gives a more confident estimation of the time to complete the project. During the execution phase the model is able to store the data related to the ongoing activities and updates in real-time the estimation of the project completion. Concurrently, it allows the calculation of specific performance indexes which permit to identify in real-time possible occurring "warnings" to users and suggest potential solutions.

Tuesday 22nd September 2009, 14:05 – 15:45, Session T32. Lean management

Chair: J. Park - Seoul National University (KR)

Production Leveling (Heijunka) Implementation in a Batch Production System: a Case Study

L. Fonseca de Araujo, A. Alves de Queiroz - Federal University of Santa Catarina (BR)

This paper presents a case study of an implementation of a new method for Production Leveling designed for batch production. It includes prioritizing criteria of products and level production plan. Moreover, it was applied on a subsidiary of a multinational enterprise located on Brazil, which manufacturing processes comprise batch production in a make-to-stock policy. Regarding a qualitative assessment, evidences show that the company had deficient practices related to Operations Planning. Thus, based on a case study approach, proposed method was applied as well empirical data were analyzed. Results were measured before and after this implementation by performance indicators of Costs (inventory), Speed (lead time), Mix flexibility (monthly set up operations) and Reliability (service level). Evidences confirm improvements in operational efficiency as expected. Researchers and practitioners can evaluate general applicability of this method by applying it in different companies that share similarities related to batch processing operations.

The moderating role of JIT links with suppliers on the relationship between lean manufacturing and operational performances

P. Romano, P. Danese, T. Bortolotti - Università degli studi di Udine (IT)

Lean manufacturing impacts several operational performances. The usefulness of JIT links with suppliers is also well known. However, literature lacks strong empirical evidences to exhibit the relationship between lean manufacturing, operational performances and JIT linkages with suppliers. This paper aims to investigate this relationship. A questionnaire-based international survey was used to obtain the main purpose of the research. Data from a sample of 200 companies were analyzed using a multiple regression methodology. The analysis demonstrates that JIT linkages with suppliers positively moderate the impact of lean manufacturing on punctuality, while the moderating effect is absent when considering efficiency and throughput time performance.

Type Toyota Management Systems (MSTT) of small and medium-sized enterprises in mechanical and electrical industry

S. Kluge, A. Rau, E. Westkämper - IFF, University of Stuttgart (DE)

This paper gives an overview and considers the most recent aspects of a study, dealing with the topic of Type Toyota Management Systems. In the survey SMEs in mechanical and electrical industry have been asked. On the one hand, a questionnaire for a mass evaluation was used and on the other hand specialists have been interviewed orally for the specific evaluation. The paper shows the methodology of the survey and some of the highlights of the results. Additionally, some approaches to face future challenges are introduced.

A Conceptual Model for Production Leveling (Heijunka) Implementation in Batch Production Systems

L. Fonseca de Araujo, A. Alves de Queiroz - Federal University of Santa Catarina (BR)

This paper explains an implementation model designed to support the application of a new method for Production Leveling in a batch production environment. The main structure of this model is grounded on three constructs: traditional framework for Operations Planning, Lean Manufacturing concepts for Production Leveling and case study guidelines. By combining the first and second construct, a framework for Production Leveling has been developed for batch production systems. Then, case study guidelines were applied to define an appropriate implementation sequence that includes prioritizing criteria of products and level production plan for capacity analysis. This conceptual model was applied on a subsidiary of a multinational company located in an emerging country. Furthermore, results were approved by both managers and Production personnel. Finally, based on research limitations, researchers and practitioners can confirm the general applicability of this method by applying it in companies that share similarities in terms of batch processing operations.

Tuesday 22nd September 2009, 14:10 – 15:50, T33 Session Production system design

Chair: Chair: A. Dolgui – Ecole de Mines de Saint-Etienne (FR)

Flow graph elaboration process in design of physical production system

S A. Dkhil, J. Sachs, M. Barth – LGECO, INSA Strasbourg (FR)

This paper presents a flow graph elaboration process for the products routing analysis in the preliminary phase of the physical production system project design. We propose reference properties from the reference needs related to lean manufacturing implementation. From these properties, we provide reference graphs used to produce initial particular graphs. Through an industrial case study, we conducted a comparative study of two processes of production flow graph elaboration: traditional and proposed process. This study evaluates our proposition in terms of cost, quality and processing time.

Balancing mass production machining lines with genetic algorithms

O. Guschinskaya, E. Gurevsky, A. Eremeev, A. Dolgui – Ecole des Mines Saint-Etienne (FR)

A balancing problem for serial machining lines with multi-spindle heads is studied. The objective is to assign a set of given machining operations to a number of machines while minimizing the line cost and respecting a number of given technological and economical constraints. To solve this problem, three different genetic algorithms are suggested and compared via a series of numerical tests. The results of computational experiments are presented and analyzed.

A Top-Down Approach for an Automatic Precedence Graph Construction under the Influence of High Product Variety

S. Altemeier, D. Brodkorb, W. Dangelmaier – Heinz Nixdorf Institute, University of Paderborn (DE)

This paper describes a top-down method for an automatic precedence graph construction that can cope with high variant products. The concept generates a joint precedence graph including all variants of a product directly. The graph is automatically derived from the bill of materials and buildability rules as well as existing solutions for the assignment of tasks to workstations. The presented method is very error prone and can improve the practical applicability of many assembly line balancing problems, which could not be used in practice yet.

Taken in aucount of disruptions to analysis and design of product system

S. Aitouche, A. Kaanit, K. Mouss – University Hadj Lakhdar, Batna (DZ)

The company has become a complex and evolving system, bathed in a disturbed environment. It must be reactive. Our job is to analysis of the production of cement company (SCIMAT Batna) using GRAI-AO. This step has put out some "inconsistencies" between the centers of decision. To remedy this, a new GRAI grid, was proposed. This design was completed by the proposed new approach of conduct, which we called CO.DE.CO. ELECTIVE. An analysis of the disruptions was made thanks to an adaptation of FMECA (Failure Modes, Effects and Criticality Analysis), to a DMECA (Disruption Modes, Effects and Criticality Analysis).

Tuesday 22nd September 2009, 16:10 – 17:40, Session T41. Production networks

Chair: S. Fuji – Sophia University (JP)

Construction Logistics Improvements using the SCOR-model – The Tower Case

F. Persson, J. Bengtsson, A. Gustad – University of Linköping (SE)

The cost for house production is rising in Sweden. Compared with other consumer goods, the cost for houses have had a steeper increase over the last decades. Initiatives such as Lean Construction and Prefabrication have emerged in the construction industry to reduce the cost of house production and thereby the cost of the house itself. These initiatives have collected a lot of ideas and tools from the automotive industry and a lot of good examples are emerging that leads to cost reductions in construction. In this strive towards improvement, logistics activities are emerging as important processes and a potential for cost savings. This paper reports on a project at the construction company Peab where the SCOR-model (Supply Chain Operations Reference Model) have been utilized in order to find processes with high cost saving potential. The result reports on cost savings from the logistics perspective in different areas of the logistic system.

Synchronizing the Supply Chain: A Practical Application of Multi-Echelon

E. Gran, E. Alfnes, K.W. Jacobsen – SINTEF Trondheim (NO)

Mustad is the world leading producer and supplier of fish hooks and fishing tackle. The purpose of this paper is to present a new control model for Mustad based on multi echelon stock theory. The proposed control model aims at reducing overall costs of supplying fish hooks and other products in a global setting at the promised predetermined service levels.

Interoperability constraints and requirements formal modeling and checking framework

V. Chapurlat, M. Roque – Ecole des Mines Alès, Nîmes (FR)

This paper aims to present and formalize the foundations of a modeling and checking framework for system requirements management. It is illustrated by the study of interoperability requirements having to be respected all along collaborative (private or public) processes.

Tuesday 22nd September 2009, 16:10 – 17:40, Session T42. ICT

Chair: F. Biennier - INSA de Lyon (FR)

A Framework for Enhancing Responsiveness in Sales Order Processing System Using Web Services and Ubiquitous Computing Technologies

M. Park, K. Shin, H. Jeong, J. Park – National University of Seoul (KR)

This study attempts to enhance the responsiveness of enterprises by adjusting the delivery dates taking into account of the production and delivery schedules in a supply chain. To enhance responsiveness, we suggest a due-date assignment method and re-negotiation process for a sales order processing system.

The due-date assignment method is designed with the concept of categorized customers' priorities and the re-negotiation process is designed with the concept of the partial delivery and due-date delay allowances. Usually, the due-dates have been considered as customer-assigned exogenous parameters or fixed endogenous variables set by manufacturers. However, those are customary in some industries, e.g. semi-conductor manufacturing, that customers often request changes for their delivery dates after placing an order if something unexpected happens. From these observations, we also propose a new architecture of responsive sales order processing system based on Web Services and Ubiquitous Computing technologies for reliable real-time information.

How to Foresee and Capture the Effects of RFID Implementation

K. Hergot, L. Skjelstad - SINTEF Trondheim (NO)

RFID technology is, according to both industry and academia, one of the most promising new technologies for improving logistics and manufacturing excellence this decade. This research provides a structured approach for identifying benefits from RFID-implementation, which would be useful for the many manufacturing companies that are still in the phase of considering employing this technology. Based on action research in two Norwegian pilot implementation projects, a framework has been developed for foreseeing, sorting, and capturing the effects of introducing RFID in goods manufacturing value chains. Effects are described in several general performance objective areas, such as cost, time, quality and environment, rather than being calculated in terms of money solely. The key is to systematically highlight possible affected performance areas and the consequences these effects have on each other and on different parts of the value chain.

Archival Case Study Analysis of the Issues in Selecting Information and ICT Systems for Supply Chains

B. Helen - Anglia Ruskin University, Cambridge (UK)

The main aim of this paper is to analyze how information and ICT systems for supply chains have been selected. Previous work indicated that the selection of these types of system is both difficult and complex. Archival cases were analyzed, which revealed that the issues could be divided into two main categories: 1) design and selection issues and 2) overarching management issues. The design and selection issues were identified as: the need for a business case to support the introduction of a new system; business process management to understand the processes that the system would support; management of the existing systems and finally, software selection. The overarching managerial processes were evaluated, indicating structural/change management; good communications and project management as being essential to the smooth-running of the selection process.

Tuesday 22nd September 2009, 16:10 – 17:40, T43 Session Change, strategy and innovation

Chair: R. Smeds – Helsinki University of Technology (FI)

The Challenges to Change

J. Nonye Udeh, J. Garside, S. Maggs, M. Macintyre – University of Warwick (UK)

In order to survive in today's changing business environment, organisations must successfully compete with new products. To ensure sustainable success with new products, a culture needs to be nurtured of continually improving approaches to New Product Development (NPD). Success requires organisations to overcome the challenges to successfully adapting their approach to New Product Development (NPD). These challenges can be classified into four areas: People, Process, Politics and Technology. This Paper introduces a framework "Logical Learning" that has been conceptualized through an action research approach. "Logical Learning" seeks to take an organisation through logical steps towards transforming their approach to NPD. This framework is being validated through a longitudinal case study and has resulted in the implementation of a new approach to NPD and a visual management system within the organisation.

Measuring the Intangible Aspects of the Manufacturing Strategy – A Case study from the Automotive Industry

B. Henriksen, L.E. Onsøyen – NTNU Trondheim (NO)

In this paper we focus on how manufacturing strategies should be measured in an increasingly complex manufacturing environment where the "traditional" quality and productivity measures are not sufficient. The paper discusses and illustrates measures, quantitative and qualitative, that are relevant for manufacturing strategies based on principles from different paradigms. From our case in the automotive industry we see that the company should measure intangible aspects, but that they could be difficult to measure and there is a risk of just measuring what could be counted. There could easily be a discrepancy between what are actually measured and what should have been measured according to the announced strategy.

Managing Innovation: A Multidisciplinary Scenario Development Approach

E. Urwin, M. Henshaw – University of Loughborough (UK)

The UK Ministry of Defence (MoD) is focusing on and shifting toward a Network Enabled Capability (NEC) approach for improved military effect. This is being realised through the physical networking and coherent integration of existing and future resources including sensors, effectors, support services, and decision makers. This paper is a case study (for NEC) of how the development and use of scenarios for demonstrating academic research can aid and help manage innovation. It illustrates the development, use and application of a multiple stakeholder scenario within the NECTISE research programme that helped establish and exploit a collaborative multidisciplinary working environment and how it helped manage innovative academic research. Our experience suggests that this approach can support the engagement of multiple stakeholders with differing perceptions and priorities and will provide a scenario development strategy for improved research and innovation for many other large systems.

Wednesday 23rd September 2009, 09:00 – 10:15, Session W11. Relationship with suppliers

Chair: J.O. Strandhagen - Norwegian University of Science and Technology (NO)

Dimensions and influencing factors for the behaviour of suppliers in supplier-customer relationships

R. Riedel, N. Neumann, M. Franke, E. Mueller – Dept. Of Factory Planning & Management, Chemnitz (DE)

Suppliers have become resources for innovation and competitive advantages. To realize those potentials specific competencies have to be developed in a partnership between customer and supplier. The success of those development projects and also the effort that has to be put in depend on several factors. One of those factors is the motivation of the supplier organization. An empirical study shows that the motivation can be described sufficiently exactly by particular characteristics. Moreover particular influencing factors with significant impact on supplier motivation could be extracted. Those findings can be used to control supplier development projects better which in turn will lead to qualitatively better results and a better cost-benefit ratio.

Optimised Planning, Ranking & Selection of suppliers: An Integrated QFD-AHP-LGP methodology

A. Bhattachraya, J. Geraghty, P. Young – Dublin City University (IR)

This research is concerned on the construction of an optimized planning, ranking and selection model for the selection of suppliers. An integrated model is built to handle these three situations together. Three different processes, viz., Quality Function Deployment (QFD), Analytic Hierarchy Process (AHP) and Lexicographical Goal Programming (LGP), are integrated suitably in this paper. The non-availability of a planning-rankingselection tool optimising the principal decision variables considering the service of the candidate-suppliers leads the authors to devise a quantified monitor for supplier evaluation. The devised integrated methodology assists decision makers in all the three phases of decision-making. The synergistic effects of the integration give rise to a new methodology that operates under multiple and conflicting-in-nature criteria having incommensurable units of measurements.
Uncertainty and risks are not considered in this paper.

Multi-supplier systems with seasonal demand

E. Bulinskaya, L. Afanasyeva – Moscow State University (RU)

Multi-supplier inventory systems with seasonal demand are investigated via queuing theory methods in the framework of cost approach. Optimal distribution of replenishment orders between suppliers is obtained under assumption of make-to-order strategy. To this end asymptotic analysis of systems behavior is performed. We apply various mathematical tools such as weak convergence and use properties of regenerative, doubly stochastic Poisson and Markov processes.

Wednesday 23rd September 2009, 09:00 – 10:15, Session W12. Quality

Chair: T. Koch - Wroclaw University of Technology (PL)

Analysis of Quality in Brazilian E-commerce (B2C)

P.L. De Oliveira Costa Neto, J.P. Alves Fusco, J.G. Mendes dos Reis – Teleinterativa Rede Nacional de Educaçao, Sao Paulo (BR)

The business world has changed the way how people think and act on products and services. In this context, the most recent amendment of the scenarios of retail operations has been the use of technology in sales and distribution. The internet has revolutionized the way people communicate, and moreover as they purchase their goods and services. Thus, the e-commerce, specifically the relation business to customer, or simply B2C, has acted so convincingly in this change of paradigm, namely the purchases in the physical location for the virtual site. Quotes online, ease of payment, price, speed of delivery, have become real order winners of applications for companies that compete in this segment. With the focus on quality of services on e-commerce, the research examines the dimension related to the quality of services, and looks for what of these factors are winners of applications.

Implementing six sigma in challenging times: a case study

J. Hernandez, T. Turner – University of Strathclyde, Glasgow (UK)

This paper presents the findings of a two year Knowledge Transfer Partnership (KTP) project between the University of Strathclyde and a small Scottish manufacturing company. The aim of this KTP is to bring stability and continuity to the organisational processes of the business by introducing Six Sigma. The paper discusses the effects that the current economic climate has had in the business and presents the findings of a Six Sigma project implementation.

Development of Manufacture Support SYSTEM using Taguchi-methods

I. Tanabe – Nagaoka University of Technology (JP)

A Manufacture Support System using Taguchi methods was developed and evaluated. This system consists of a Taguchi methods part, a CAE simulation part and a management part of productivity. The Taguchi methods part was first used for calculating the average and the standard deviation regarding all combinations using all parameters. The CAE part was then used for shortening the total time of evaluation regarding some design factors of the development. The management part of productivity was finally used to select the optimum combination of all parameters for success percentage, accuracy, manufacturing time and total cost. In addition, the spring back of warm press forming on magnesium alloy plate was investigated for evaluating this system in the experiment. It is concluded from the result that (1) This method effectively predicted optimum process conditions in each priority and (2) The predicted results conformed to the results of the spring back test.

Wednesday 23rd September 2009, 09:00 – 10:15, Session W13. Performance, measurement and costing

Chair: M. Tucci - Universita degli Studi di Firence (IT)

Proposal of a performance Measurement system for professional Non-profit Service Organization

M. Benedetti, S. Terzi – Università degli Studi di Bergamo (IT)

The paper aims at presenting a Performance Measurement System (PMS) developed in an Italian project, performed by the authors within a professional service organization in Italy, active in the non-profit health and safety sector.

Performance measurement: questions for tomorrow

U. Bititci, P. Garengo, V. Dörfler, K. Mendibil – University of Strathclyde, Glasgow (UK)

Ever since Johnson and Kaplan (1987) published their seminal article performance measurement gained increasing popularity both in practice and research with over 3600 articles between 1994 and 1996. A précis of the literature on global and business trends predicts that the world is heading towards a networking era dominated by global autopoietic networks. A systematic review of the performance measurement literature concludes that although historically the performance measurement literature had tracked the global business trends our current state of knowledge on performance measurement is not complete and a number of fundamental questions remain unanswered, particularly in the context of future trends.

Total Cost of ownership Considerations in Global Sourcing Processes

R. Alard, P. Bremen, J. Oehmen – ETH Zurich (CH)

Even within the financial crisis Global Sourcing is gaining more and more importance. Although a lot of European companies have already a long experience with international supply markets, uncertainties about the consequences and the costs related to a specific international supplier selection still remain. The Total Cost of Ownership concept is an interesting approach in order to cope with this problem. In the present paper key requirements for a Total Cost of Ownership concept from an industrial perspective are described. In the following, a Total Cost of Ownership concept is presented which allows conducting detailed Total Cost of Ownership calculations structured in different key modules. These key modules base on macroeconomic and microeconomic aspects which can also be largely used independently.

Designing and implementing a framework for process-oriented logistics costs measurement in a automotive-supplier group

G. Von Cieminski, M. Karrer, M. Zur – ZF, Friedrichshafen (DE)

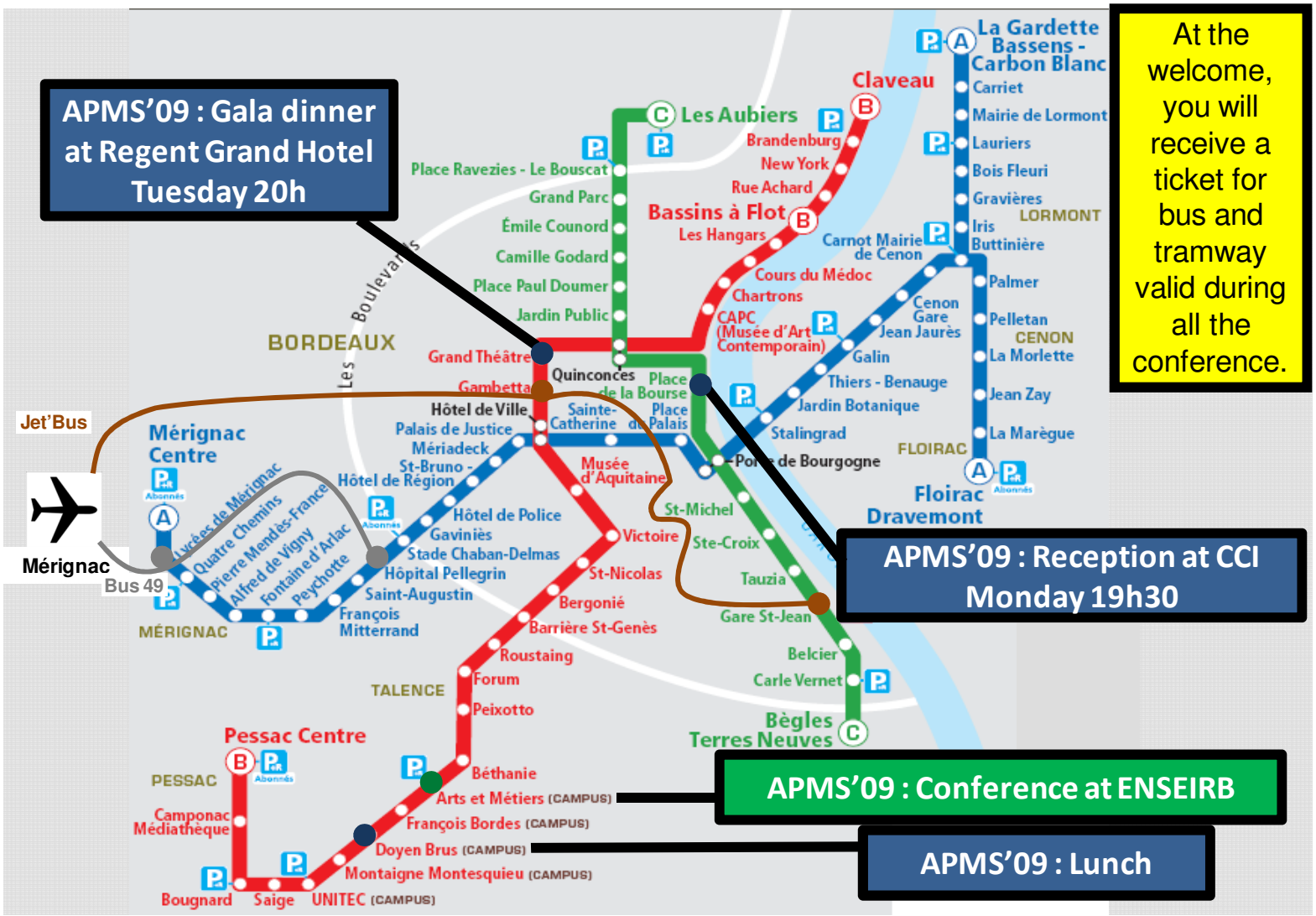
Measurements of logistics costs are necessary for manufacturing companies to be able to evaluate the cost effects and trade-offs of logistics management decisions. This case study highlights the challenges ZF Friedrichshafen AG faced during the implementation of a process-oriented logistics-costs measurement framework. The discussion of possible solutions to these challenges leads to recommendations for research as well as industrial practice. Specifically, a greater degree of co-operation between logisticians and cost accountants seems necessary in both academia and industry in order to develop more standardised logistics-costs measurement methods.

Cabane tchanquée

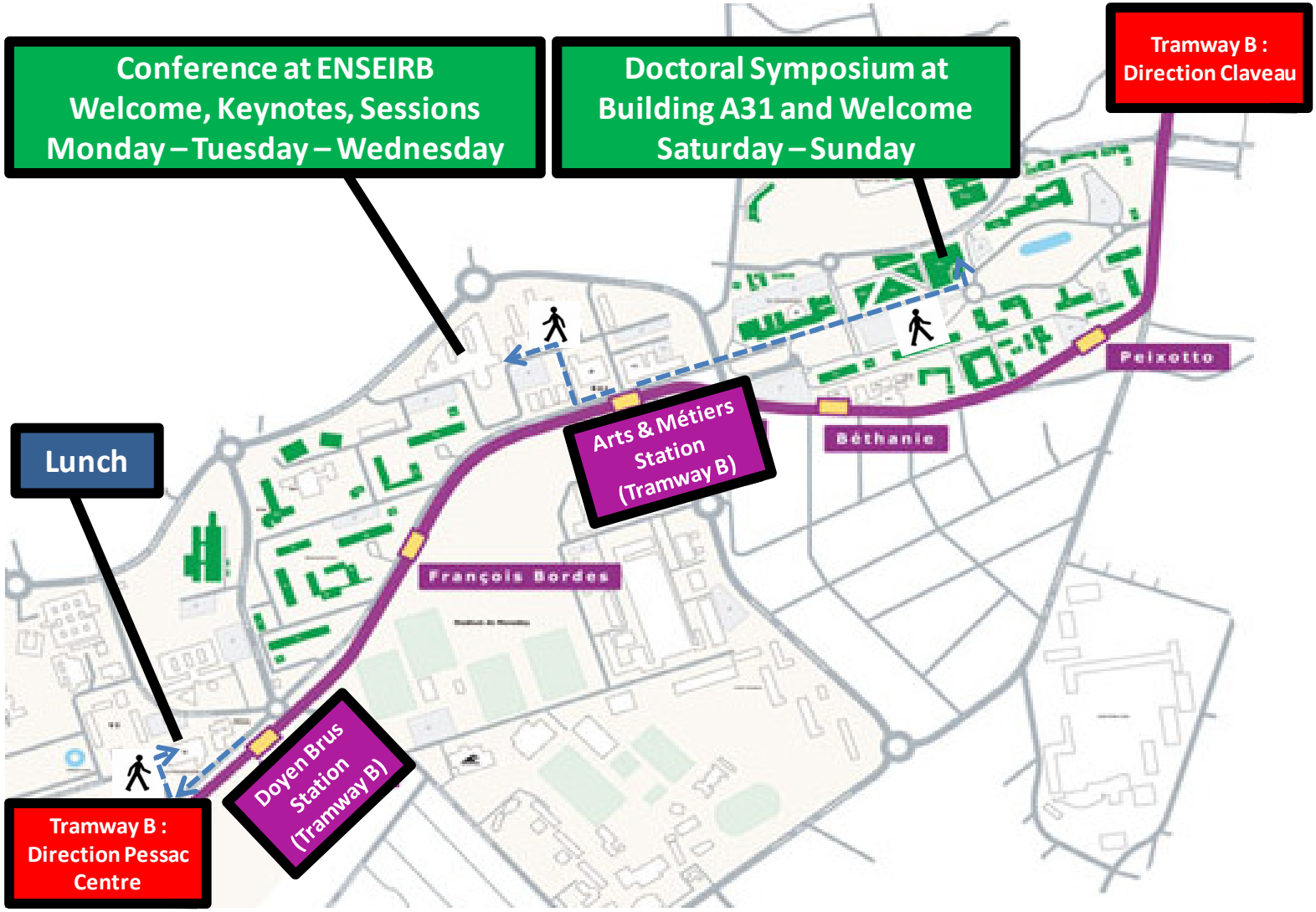
PRACTICAL INFORMATION

Tramway Map

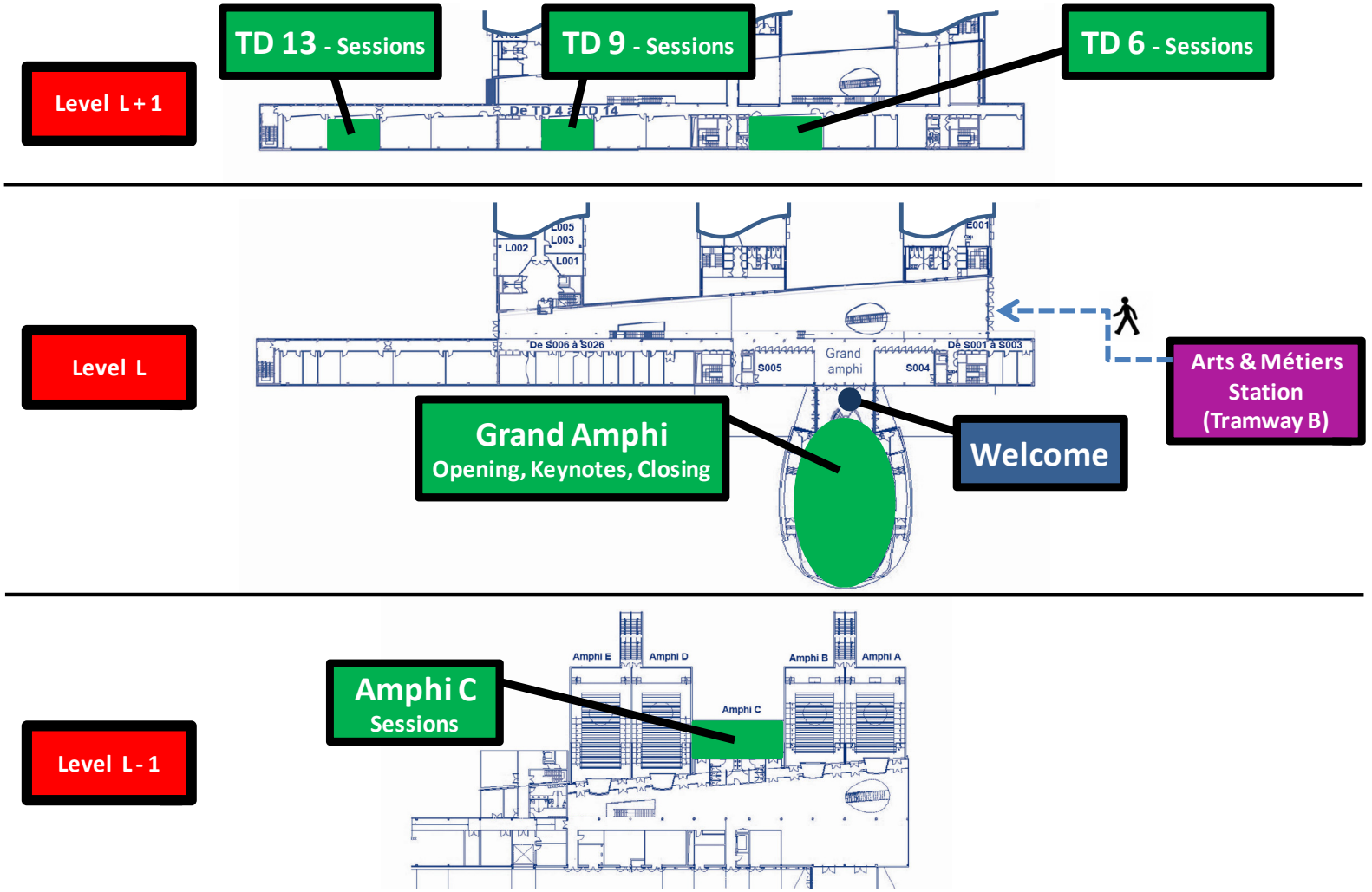
Tramway Tickets are given in the conference luggage



Campus Map


Conference at ENSEIRB
Welcome, Keynotes, Sessions
Monday – Tuesday – Wednesday
Doctoral Symposium at
Building A31 and Welcome
Saturday – Sunday
Tramway B :
Direction Claveau
Lunch
Arts & Métiers
Station
(Tramway B)
Peixotto
Béthanie
François Bordes
Doyen Brus
Station
(Tramway B)
Tramway B :
Direction Pessac
Centre

Enseirb Map


Level L + 1
TD 13 - Sessions
TD 9 - Sessions
TD 6 - Sessions
De TD 4 à TD 14
Level L
L005
L003
L002
L001
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De S006 à S026
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S004
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Arts & Métiers Station (Tramway B)
Grand Amphi
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Welcome
Level L - 1
Amphi C
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Amphi E
Amphi D
Amphi B
Amphi A
Amphi C

Receptions and Gala Dinner

(see the previous maps for tramway access)

Sunday 20th September 2009, 19:00 – 21:00

Welcome Buffet

Laboratoire IMS - Université Bordeaux 1
Building A31
351 cours de la Libération
33405 Talence cedex, France
Tel: +33 5 40 00 60 00

Monday 21st September 2009, 19:30 – 21:30

Reception at the Chamber of Commerce and Industry */ Taylor & Francis anniversary*

Chambre de Commerce et d'Industrie de Bordeaux
12 Place de la Bourse 33076 Bordeaux cedex
Tél : 05.56.79.50.00 Contact : Direction Communication

Taylor & Francis
Taylor & Francis Group

Chamber of Commerce and Industry

Tuesday 22nd September 2009, 20:00 – 23:30

Gala Dinner at the Regent Grand Hotel Bordeaux

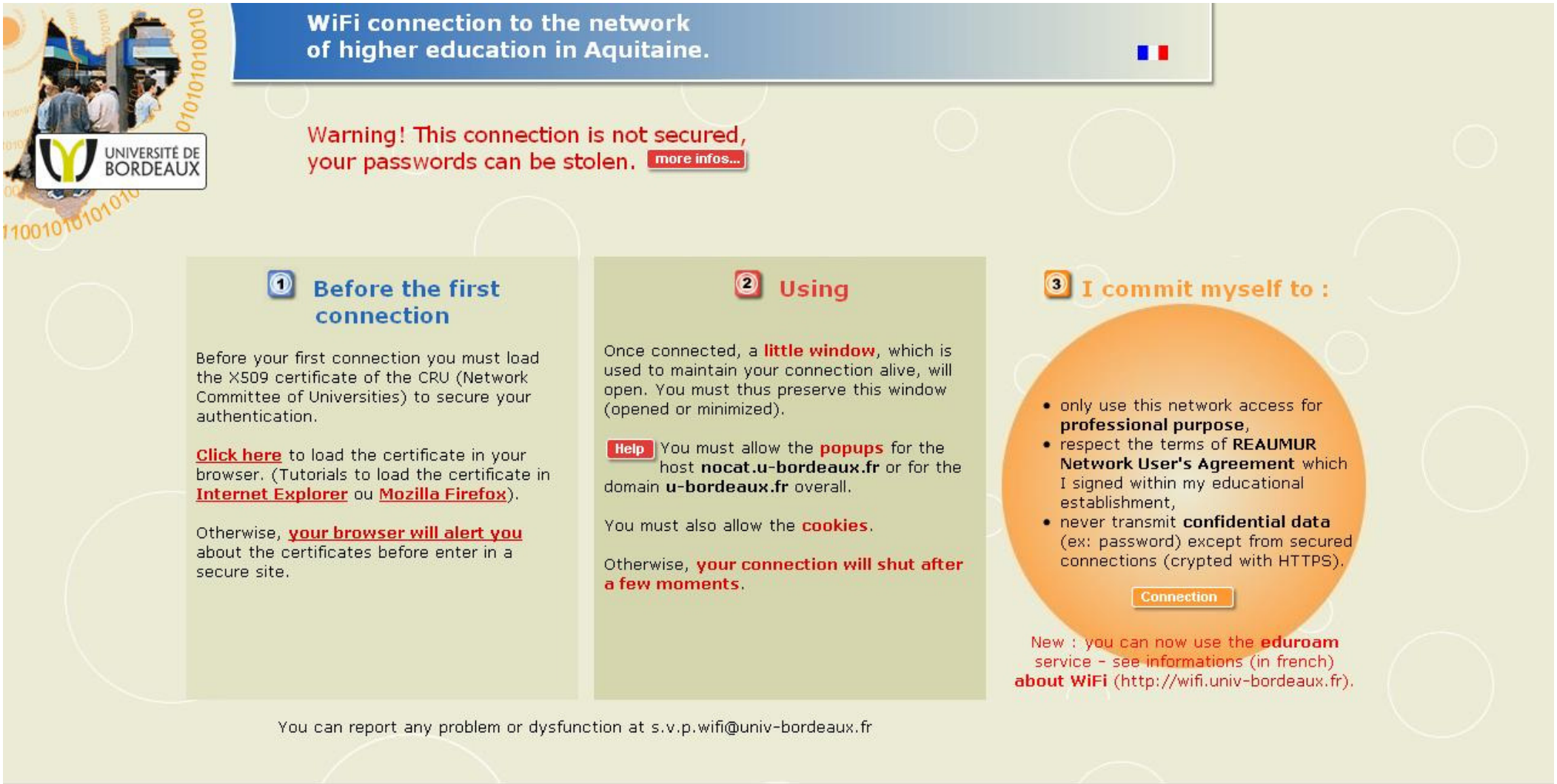
Located just opposite the Opéra National de Bordeaux (the Grand Théâtre) The Regent Grand Hotel Bordeaux is reclaiming its place as the most majestic hotel in the city. The hotel has undergone a comprehensive and faithful restoration which respects its colourful history while offering a level of luxury and elegance never before experienced. With guest rooms designed by famed French designer Jacques Garcia, the 1,000 m² Les Bains de Lea Spa (opening at a later stage), gourmet restaurant Le Pressoir d'Argent, experience the splendours of the newly revived Palace Bordelais.

The Regent Grand Hotel Bordeaux
2-5 Place de la Comedie
33000 Bordeaux, France
Tel: +33 5 57 30 44 44
Email: info.bordeaux@rezidorregent.com

Regent Grand Hotel

Wifi

(Click on the button Connection to fill your login and password given at the registration desk)



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