
Editorial

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Biographical notes: Christophe Merlo is an Assistant Professor in the Research Team of the Superior School for Advanced Industrial Technologies (ESTIA). After nine years as a Consulting Engineer involved in CAD/CAM and PDM projects, he joined the research team of ESTIA in 1999 and received his PhD from the University of Bordeaux 1 in 2003. This PhD dissertation dealt with the modelling of engineering design coordination knowledge and the development of the related computer-aided environment using multi-agent concepts. He has been integrated in the IMS Laboratory, University of Bordeaux 1 in 2007, in the organisations and design engineering team, where he passed his accreditation to supervise research. His research axes focus product lifecycle management, enterprise interoperability and information systems for supporting human actors in collaborative design. He has published more than 70 papers in international journals, conferences and books.

Vincent Robin is an Associate Professor at IMS – LAPS Laboratory, University Bordeaux 1 (France), since 2002. He received his PhD in 2005. He is an engineering graduate of the Polytechnic School of Tours in 2000, and he passed the Aggregation of Mechanics in 2001. His research interests include coordination of engineering design, human factors in design coordination and performance evaluation of collaborative design process.

This special issue titled ‘Towards new challenges for innovation management: methods and tools’ is based on the selection of the best contributions to ERIMA Symposiums dealing with industrial applications.

European Research on Innovation and Management (ERIMA) is a ‘network of European excellence’ in the field of innovation and industrial management (I&IM). ERIMA is composed of highly-qualified European universities and research centres from different countries in Europe as well as business leaders of both SMEs and large companies, public sector representatives and practitioners focused on innovation

management. The aim of this network is to promote new theories, methods and techniques in I&IM issues. The papers selected in this special issue focus on methodological and ICT tools for supporting innovation and its management.

In the first paper titled 'A review and conceptualisation of innovation models from the past three decades' and written by N. Errasti, N. Zabaleta and A. Oyarbide, innovation is seen as a tool for improving the performance of a company. Several innovation models are studied in order to determine factors of innovation with the aim of developing a new innovation model available for industrial firms in the Basque country.

After this general introduction, next two papers focus on the early design phases of innovative projects. In the second paper titled 'Towards a multi-input model, method and tool for early design phases in innovation', O. Pialot, J. Legardeur and J.F. Boujut develop more precisely a methodology for managing opportunities for product innovation, based on a three-dimensional model called concept, technology and potential (PTC). This methodology supports and structures the preliminary exchanges among all stakeholders.

In the third paper 'Supporting the ideation processes by a collaborative online-based toolset', A. Hesmer, K.A. Hribernik, J.M. Baalsrud Hauge and K-D. Thoben analyse how individuals and groups work together in a collaborative way. They propose to support such collaborative work by applying game dynamics through an integrated software tool that is still to be implemented.

New ideas during early stages of design are a way to initiate product innovation. The paper 'Change prediction in innovative products to avoid emergency innovation' from C.M. Eckert, R. Keller and P.J. Clarkson demonstrate that this assertion hides a more complex reality. A method for anticipating change propagation throughout the product structure is proposed. As a result, the impact of a proposed innovation on an existing product can be evaluated through risk calculation to help designers' choice.

Mastering innovation techniques is a high challenge for companies and in their paper 'Innovative product design for students-enterprises linked projects', M. Bigand, C. Deslée and P. Yim present a method for product innovation composed of several tools and applied by students interacting with enterprises. As a consequence, both students and enterprises get trained and are able to manage innovative projects.

Beyond training, the key issue for companies is to be able to manage innovation i.e., product development processes that will transform innovative ideas into success stories. Next papers focus on the management aspects: direct coordination of product development as well as strategy definition and management.

In the sixth paper 'A general framework for new product development projects', M. Zolghadri, P. Girard, C. Baron and M. Aldanondo present a framework for helping companies defining their own strategy and to support innovation in a context of collaborative new product development projects. The framework details the decomposition of a co-development project into several phases: analyse, design and do. During design and do phases the SPIN model is implemented to manage services, product, internal facilities and the network of partners. A global co-working project control allows the coordination and the supervision of the whole processes.

Extending innovation to product and services is also a key issue of the seventh paper titled 'Relevance and innovation of production-related services in manufacturing industry'. S. Kinkel, E. Kirner, H. Armbruster and A. Jäger analyse how product-to-service and service innovation to customers have a positive and increasing

impact on the sales of a manufacturing company from a survey leded on European companies.

In their paper 'A TRIZ-based approach to manage innovation and intellectual property', D. Regazzoni, C. Rizzi and R. Nani consider TRIZ theory to build a generic approach for managing intellectual property and address patents, trademarks and industrial secret problems. Presented methodologies and tools are helpful to support know-how transfers between companies, as shown in their case study.

Finally, companies must be ready to introduce innovation in their management and processes. O. Zephir, S. Minel and E. Chapotot report in the ninth paper titled 'A maturity model to assess organisational readiness for change' analyse the ability of a company to change. They base their proposal on the maturity concept and develop a framework that allows defining the domain concerned by a change in a company, the intended transformations and the factors influencing this change. Finally, change management is considered as a real project that combines individual energies through shared objectives to improve the efficiency of internal evolutions.

In the paper 'Learning virtual teams: how to design a set of Web 2.0 tools?', M. Diviné, M. Schumacher and J. Stal-Le Cardinal develop the idea of virtual teams in order to help their members collaborate. They propose a process where virtual teams elaborate their own requirements to characterise their own collaborative system based on Web 2.0 tools from necessary skills and function.