REMPLANET NEWSLETTER

Content

Editorial

Creating business opportunities: it's a matter of new methodologies (and tools)

Being successful in the current globalised market implies the capacity to rapidly and correctly understanding the customers' wishes as well as of developing and nurturing the specific supply networks allowing to effectively and efficiently deliver value to customers, through an adequate and customised bundle of physical products and services.

The ability to interact with a multitude of heterogeneous stakeholders and to acquire many complementary competences are becoming more and more important for ensuring company wealth. This results into new challenges for companies, which have to adopt new methodologies for effectively exploiting the competences of external stakeholders. Specific methodologies have to be developed according to the objectives to be pursued, the type of stakeholders to be involved and the required level of integration. The RTD partners of REMPLANET project in close collaboration with the industrial partners, which are in charge of project results validation and implementation through the carry-on of pilots, developed various methodological tools to support companies in the implementation of new concepts and/or for enhancing the interaction with the stakeholders, with a particular focus on customers. These methodological tools have been developed in order to facilitate the understanding by companies of various theoretical concepts and their subsequent application. Nevertheless, the support of a consulting company or a university (research centre) is suggested for ensuring a correct application of some of them. The contribution of the consulting partners is mainly related to technical aspects and not dealing with the underlining theoretical concepts.

Some of these methodological tools can be considered as qualitative knowledge repositories containing in a structured and formalised way, all the information required for applying most sophisticated quantitative tools while shaping the company strategy. A common strategy guides the development of the methodological and software tools that integrate and exploit the new concepts. The methodological tools themselves are complementary, because they are focused on different stakeholders as well as they are dealing with different kind of decisions and processes. Each methodological tool is self-sustaining, however better results can be obtained from a combined used of the various tools. In this way the synergies and the complementarities among the various tools can be fully exploited. For this reason, the tools are characterised by common “languages” and by compatibles modelling approaches in order to ensure an easy simultaneous and/or incremental adoption of the bundle of methodological tools.

The adoption of these tools will result in more open and less hierarchical companies that strongly integrate their customers into the innovation process (tool: Idea Management Process) as well as they are more ready to share knowledge and best practices with universities, service providers and companies not belonging to their supply networks (tool: Mass Customization Knowledge Network).

In order to do so the alignment between products'-processes'-supply networks' configurations has to be guaranteed with a specific focus on the requirements of customized markets. Manufacturers are thus provided with simple diagnostic tools, which can be used to identify the network type in which they are currently operating and its suitability on the basis of the markets to be served, as well as with reference models that provide qualitative information to be used for developing coherent strategies (tool: Operational REMPLANET Model). These methodological tools support the identification of promising business opportunities, especially those related to mass customisation, and the establishment of the strategy to be followed for creating the resilient non-hierarchical supply networks required for fully harnessing these business opportunities (tool: REMPLANET Workbook).

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News

iNet-IMS Workshop ICE2011

During the 17th International Conference on Concurrent Enterprising held by 20-22, June 2011 in Aachen (Germany), a **iNet-IMS** Workshop titled **"Design and Management (strategic, tactical and operational) of Non-Hierarchical Collaborative Manufacturing Networks"** was organized. This workshop was sponsored by Intelligent Manufacturing Systems (www.ims.org).

The **iNet-IMS "Intelligent Non-Hierarchical Manufacturing Networks"** IMS-MTP initiative (www.inet-ims.net) was created in June 2010 to foster the collaboration among 5 FP7 projects in order to define a Framework for Collaboration in Non-Hierarchical Manufacturing Network context, which extends the scope of the single projects. The workshop was supported and leaded by members of the iNet-IMS consortium belonging to the following projects:

Project title	Acronym
Resilient Multi-Plant Networks	REMPLANET
Rethinking globalisation in the light of contraction and Convergence	CONVERGE
Innovative Networks of SMEs for Complex products Manufacturing	Net-Challenge
In time delivery in non-hierarchical manufacturing networks	inTime
Sustainable Mass Customization – Mass Customization for Sustainability	S-MC-S

During the workshop, some of the current results already achieved in the iNet-IMS FP7 Projects were presented in terms of theoretical and methodological framework improvements as well as of supporting tools development. The proposed approaches have been developed in order to be as general as possible, in order to facilitate a wide adoption by the enterprises. Nevertheless, the needs and specificities of particular sectors (textile and apparel, footwear, machinery and equipments) from which belong the companies involved in the projects are elicited and addressed.

The challenges and opportunities linked to product differentiation, mass customisation and customer driven innovation were specifically addressed. The workshop provided an excellent opportunity to discuss about state of the art enhancement in the field of design and management of collaborative manufacturing networks. These papers were presented:

Collaborative planning approach for non-hierarchical networks environments
Ricardo Almeida, César Toscano, Américo Azevedo and Luis Carneiro

Collaborative customization strategy based on a platform based product family and white spots
AHM Shamsuzzoha, Timo Kankaanpää, Luis Carneiro

Developing a Collaborative Business Intelligence System for Improving Delivery Reliability in Business Networks
Tobias Mettler and David Raber

Efficient sizing of Technical Assistance Service (TAS) resources for a large installed machinery base network using discrete simulation
Arkaitz Uriarte Zearra, Itziar Ricondo and Aitor Goti

Integrated Framework for Variety and Customisation Management
Lucy Everington, Andrew Lyons and Dong Li

A Framework for Event Management within Networks of SMEs for Complex Products Manufacturing
Pedro F.Cunha, Pedro S. Ferreira, Sami Rintala, A.H.M. Shamsuzzoh and Luis Carneiro

Power Interaction in Non-hierarchical Supply Chain Network Mauricio
Yan Liu and Marc Zolghadri

Lugano Meeting

During the 25th and 26th May 2011 in Lugano, SUPSI held the REMPLANET workshop for month M24 where several participants representing the different partners of the project presented and discussed the work done in last months and the future work to perform in each work package.

In this meeting special emphasis was put in the pilot cases and their evolution as well as the status of the different exploitable results.

Finally, the workshop was closed with the meetings of the Intellectual Property Rights Support Group, Executive Board and General Assembly.

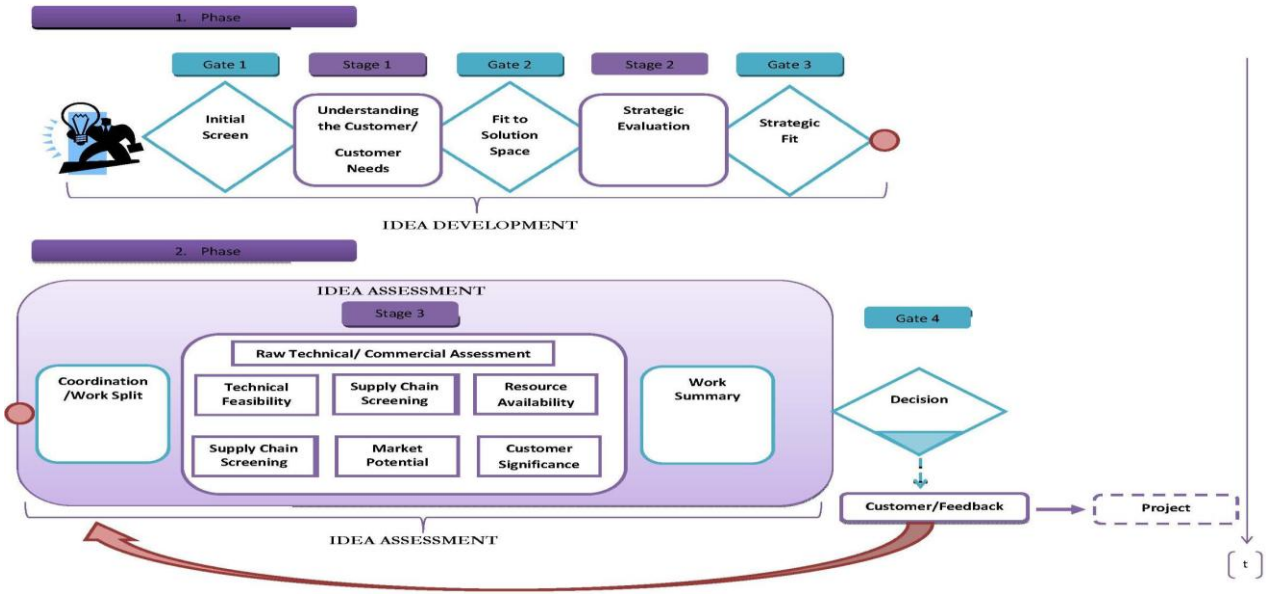
Festo Meeting

During 27th and 28th September 2011 in Esslingen, FESTO will organize the REMPLANET workshop for month M28 where the partners will analyze the advance of the work in the remaining active work packages and precise the roadmap of the future work to perform in each work package.

Currently, the REMPLANET Project work is focused on implementing the research results in the industrial project partners and to assess the quality running of such pilots' implementation.

Exploitable Results

Idea Management Process

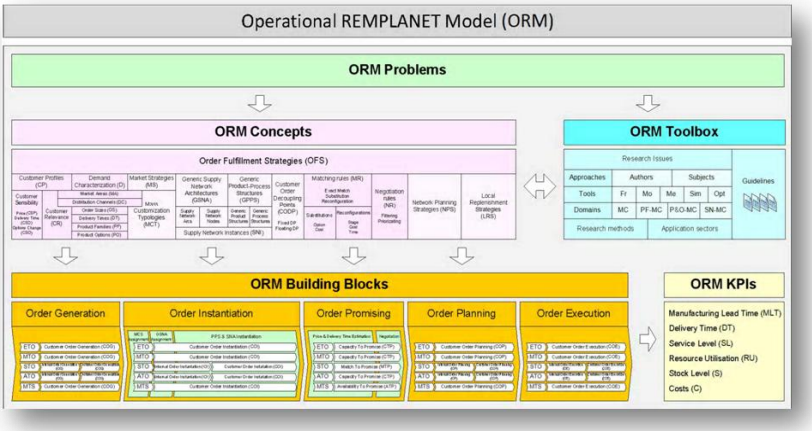


Overview	The IMP offerd the necessary link between customers and mass customizing companies. The IMP targets the integration of customer ideas and innovations into the new product development of a company. It is supposed to be an efficient and functional process, with which it is possible to evaluate a customer's idea in every facet that is important for the customer and for the company. As this process has to be suitable for all kinds of customer input and different industry settings, the process was designed to be as broadly and generic as possible.
Product Specification	The implementing company needs the support of an expert team, which can evaluate the process.
Potential Customers	Manufacturing industries that want to offer mass customized products and are not sure how to respond to customer input.
Expected benefits for Customers	By using the process, the implementing company should be able to respond to a consumer's individual needs. After implementation the company should be able to decide whether certain customer inputs can be integrated in new product development or not.
Business Model	The process might be exploitable in form of a consultancy service. The process is described in a generic way and thus has to be adapted to each costumer's individual needs before being put to practice.

Mass Customization Knowledge Network

Commercial Name	MCKN
Overview	MCKN is an online portal for collaboration of stakeholders in the field of mass customization. The portal is supposed to address the following three core targets: • The platform offers an easy introduction into the topic of mass customization / customer co-creation. Furthermore, the portal should have a broad repository of knowledge and e-learning offers. • The portal connect different stakeholders from the field: Academia, manufacturers of individualized products and providers of enabling services for mass customization will be brought together to form a community that will communicate and exchange information through the platform. • The portal fosters knowledge exchange between practitioners: Problems on implementing or executing mass customization can be posted for open discussion with the help of forums or mailing lists; other stakeholders can then answer these "questions" and share their experiences.
Potential Customers	All stakeholders who are interested in Mass Customization: academics, practitioners, consultants, scholars, etc.
Expected benefits for Customers	Users are able to share their knowledge and to learn from each other. Moreover, they can get solutions to certain problems or gain information by discussing a topic with people from other fields of expertise.

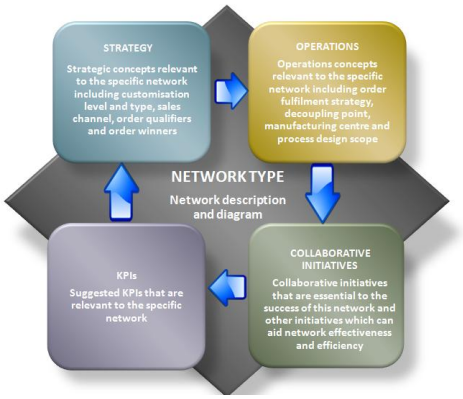
Operational REMPLANET Model



Commercial Name	ORM
Overview	Conceptual model, toolbox, and guidelines, for facilitating the alignment between products'-processes'-supply networks' configurations in order to respond to customized market demands at the lowest possible cost and time.
Features	**ORM web tool** The ORM has been implemented on a web tool that allows companies to identify, from a list of nine paradigmatic issues, how their products'-processes'-supply networks' alignment threads, for mass customisation scenarios, can be comprehensively conceptualised as well as receive guidance on future courses of action to solve them. The ORM is composed of five main features: (1) ORM paradigmatic issues; (2) ORM concepts; (3) ORM building blocks; (4) ORM toolbox; (5) ORM KPIs. The ORM web tool follows a qualitative approach that can be extended, and complemented, with a quantitative tool such as the DSS. The DSS allows simulating-optimizing the proposed solutions coming from the analysis over different key performance indicators of the company. **Self assessment web questionnaire** Derived from the ORM, a web questionnaire has been developed that allow companies to make a quick self assessment on their strategic status with respect to issues such as product family, processes and operations, supply network with a focus on mass customisation.
Product Specification	Both the ORM web tool as well as the Self assessment web questionnaire would be accessed through the MCKN platform.
Potential Customers	Global multi-plant networks companies and SMEs that belong to sectors with medium/high degree of product customisation, e.g. capital goods

	manufacturers.
Expected benefits for Customers	An integrated qualitative analysis to address decisions on product family structures, processes and operations management strategies and supply network configurations to respond efficiently to a customised market demand.
Business Models	The ORM exploitable result mainly follows two freemium business models (BM). **Self assessment web questionnaire + ORM tool** The quick self assessment web questionnaire and its analysis is given for free, and for those companies that want to go further, there is a fee for an expert consulting service supported on the ORM tool. An ordinary ORM tool consulting service could imply about 10 sessions of two consultants, which means around 30,000€/service. **ORM web tool + DSS** The ORM web tool can be used for free, and for those companies that want to complement, with quantitative analyses, the proposed solutions, an expert consulting service supported on the DSS tool is offered. An ordinary DSS consulting service could imply about 50 days of two consultants, which means around 90,000€/service. **Others** Different consultants could be certified as ORM auditors after completing a training curriculum (beginners-intermediary-advanced levels). Also, ordinary training services like online courses, webinars, and workshops, regards the ORM, could be offered. In both cases, such offers will be priced according to the market standards.
Common Global Use Cases for Customers	*"We see the ORM (Operational Remplanet Model) as a very attractive tool for consulting the possibilities of resolution of different problems that appear in the company. For instance, the model is helping us to characterize different strategies to supply customized products. In the past we have managed these problems in an intuitive form, whereas now we understand the concepts that give sense to our decisions."* – BIMATEC-SORALUCE *"The ORM Web Tool is a very useful instrument to have a detailed description and a map of different situation a company has to front managing its relation with actors of the Supply Network. Even if VL isn't in charge of directly configuring the connection with raw material and components suppliers, it's important to know and understand the Mass Customization concepts in a complete way, having a detailed description of the strategic behaviours the company can adopt."* – VL Idrodinamica
Roadmap	The ORM web-based tool, located at the MCKN platform, provides a way to continually test it (user friendliness, language accuracy, content value) and enrich it (new issues, concepts, building blocks, tools, KPIs) through user collaboration dynamics.

REMPLANET Workbook



Overview	The workbook provides a practical approach to applying the REMPLANET Integrated framework. The approach considers the level of product variety and customisation in a manufacturers products and how their network, strategy and operations can best be configured to support this level of product variety and customisation.
Features	The workbook provides a diagnostic which manufacturers can use to identify the network type that they are currently operating in. It then provides in depth details on ideal strategic and operational management in each type of network. Collaborative initiatives that are essential for each network and their benefits are explained as well as collaborative initiatives that have the potential to make each type of network more efficient. It then provides relevant key performance indicators that can be measured to assess the performance of each type of network.
Product Specification	Product is in the form of a workbook with a simple diagnostic that companies should be able to complete themselves.
Potential Customers	Manufacturing SMEs
Expected benefits for Customers	The workbook provides companies with the information to optimise their network in terms of strategic and operational decisions and also through the application of collaborative initiatives. It can also provide companies with the expertise to change to a different type of network that would support their product variety and customisation options better where necessary.
Business Model	The University of Liverpool will provide consultancy for SMEs based on the use of this workbook.
Common Global Use Cases for	The workbook has been utilised in SMEs within the REMPLANET

Customers	project to both improve network efficiency and to change a company's operations to move them into a different network type allowing them to meet customer demand for variety more easily.
Roadmap	The workbook is currently being finalised, with further case studies being undertaken with companies outside of the REMPLANET project to enhance the workbook. These case studies will help provide further guidance on how the workbook can be used.