

The Cluster's Mission

Bring forward topics such as “ambient aware services” and “higher flexibility” in the area of

- product configuration,
- supply network management,
- control of supply network capability and
- forecast for new model variants monitoring the time-to-empty of the supply chain for the variants going out of production.

Identify potential new strategies for further research, in order to keep Europe's manufacturing industry not only alive, but fully competitive and in a strategically leading position.

Enhancing the prospects for employment in Europe by

- developing new, innovative methods and IT support as well as
- promoting new stabile networks on basis of field studies which investigate the real business needs and additionally constraints, depending on companies' product categories, enterprise structures and size.

For further information see our homepage <http://www.rfid-in-action.eu/aitpl>

Cluster members

E4 - Extended Enterprise Management in Enlarged Europe

 - www.crfproject-eu.org/?site=E4

Net WMS - Networked businesses in Warehouse Management Systems

 - net-wms.ercim.org

ILIPT - Intelligent Logistics for Innovative Product Technologies

 - www.ilipt.org

X-Change - Flexible Change Management for the Factory of the Future

 - www.x-change-project.net

FLUID-WIN - Finance, Logistic and Production Integration Domain by Web-based Interaction Network

 - www.fluid-win.de

CE-RFID - Coordinating European Efforts for Promoting the European Value Chain

 - www.rfid-in-action.eu

Mapper - Model-based Adaptive Product and Process Engineering

 - mapper.troux.com

Pabadis'Promise - PABADIS based Product Oriented Manufacturing Systems for Re-Configurable Enterprises

 - www.pabadis-promise.org

TraSer - Identity-based Tracking and Web-Services for SMEs

 - www.traser-project.eu



**Ambient Intelligence
Technologies for the
Product Lifecycle**

AITPL in a Nutshell

The strength of the European Economy is substantially based on relationships among many enterprises, which together form agile networks, able to react to market demands in shortest time. These networks (sometimes formalized as virtual enterprise for a specific product) are still competing successfully on a worldwide scale with enterprises from distant countries which offer wages in completely different dimensions. This success can be kept, only, if the networks establish and maintain smooth communications which cover the complete life cycle of the product. Significant effort has been spent to synchronize the product development in such networks. However, the same exertion is indispensable to improve the manufacturing chain itself, providing means for a radical make-to-order strategy. This includes substantial new methods for product configuration, for supply network management, for the control of the supply network material capability (in contrary to the capability to deliver of single companies) as well as for propagating forecast for new model variants and carefully monitoring the time-to-empty of the supply chain for the variants going out of production. The importance of these aspects cannot be overestimated, as the closeness to the market (changing from years to days) requests for highly frequent changes. Changes are either general (for the model, due to improvements, new features responding to the more and more sophisticated customer demands or fault elimination) or directly customer-driven (configuring the specific delivered product). In both cases, even if changes may be minor, they can have implications on many supply networks nodes. Managing this information is, therefore, a major challenge for the near future.

While the challenge is to the network, the reaction to the challenge has to be performed by the companies as the only real actors. This addresses the need of acting locally in the network environment, thus driving the network's success globally. The keyword is context awareness, providing means to effectively manage decisions of different network partners for different product and production status. Different environments within one system should adapt to the roles of the human being addressing the network, and different (possibly conflicting) changes need to be detected and introduced into the workflow for problem solving. Such systems would behave different dependent from where they are contacted (in the extreme case, changing the role when physical interfaces like PDAs are moved into a new environment). Today, Europe's attitude with respect to agility is massively higher than from distant low-cost / high volume providers. However, achieving the goals mentioned requires a new step forward in terms of the business culture.



NET WMS



CE RFID

MAPPER

PABADIS PROMISE

Traser