



MTP PROJECT PROPOSAL

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ACRONYM	DATE	SUBMITTED BY	PARTICIPANT
TIPSS-IMS	06/27/2008	RWTH Aachen University	European Union/ USA
IMS REF. NO.	FULL TITLE		
MKT09001	Tools for Innovative Product-Service-Systems for Global Tool and Die Networks within the IMS community		
IMS MTP PLATFORM			
KEY TECHNOLOGIES			
KEYWORDS			
product service systems, tool and die industry, condition based monitoring, smart tools			
OBJECTIVE AND INDUSTRIAL RELEVANCE			
<p>The objective of the project TIPSS-IMS, Tools for Innovative Product-Service-Systems for Global Tool and Die Networks within the IMS community, is the extension of scope of the EC-FP7 funded project TIPSS (No. 214794) with respect to IMS-specific tasks and results. A win-win situation will be achieved by making the results of the TIPSS project accessible for the global IMS community and by improving the significance of individual work packages due to the integration of the global perspective of various IMS partners in the TIPSS-IMS project.</p> <p>The TIPSS-IMS project addresses the needs of the tooling industry in the IMS regions. In recent years the tooling industry has lost its competitive edge due to progressive cost competition as well as a shortfall in developing innovative sales potentials such as delivering know-how-intensive industrial product-services. No other industry depends on the integration of customer influence in the design and development process of its products at such degree. The tooling industry faces multi-site and multi-national product development and production processes of parts producing customers all over the world. These customers demand a great deal from their toolmakers – and the latter need to live up to these aspirations. Networks offer a chance to fulfil the prospective customers’ needs, especially for small- and medium-sized companies that do not have the resources to build up an international network off their own.</p> <p>The main objective of the TIPSS-IMS project is to develop and establish innovative business models in which the toolmaker becomes the manager of customer and partner</p>			

networks to satisfy all customer needs as well as to handle his own cost-effective value-based management. The enabler for these global tool and die networks are so-called “smart tools” developed in the TIPSS project. “Smart tools” represent injection moulds equipped with state-of-the-art sensor technology delivering real-time data from the production process. A newly developed electronic toolbox will collect, store and transmit this data. By using algorithms developed in the TIPSS project the transmitted data will be evaluated by the toolmaker. The toolmaker becomes capable of monitoring the process and to offer unique product related services for his customers, such as an optimised preventive maintenance, which can be scheduled to non-production times. The operational availability of both tool and machine can be increased. At the same time the toolmaker is now able to better integrate the knowledge gained from previous tools to improve the performance of newly developed tools. The objectives of TIPSS are visualized in Figure 1.

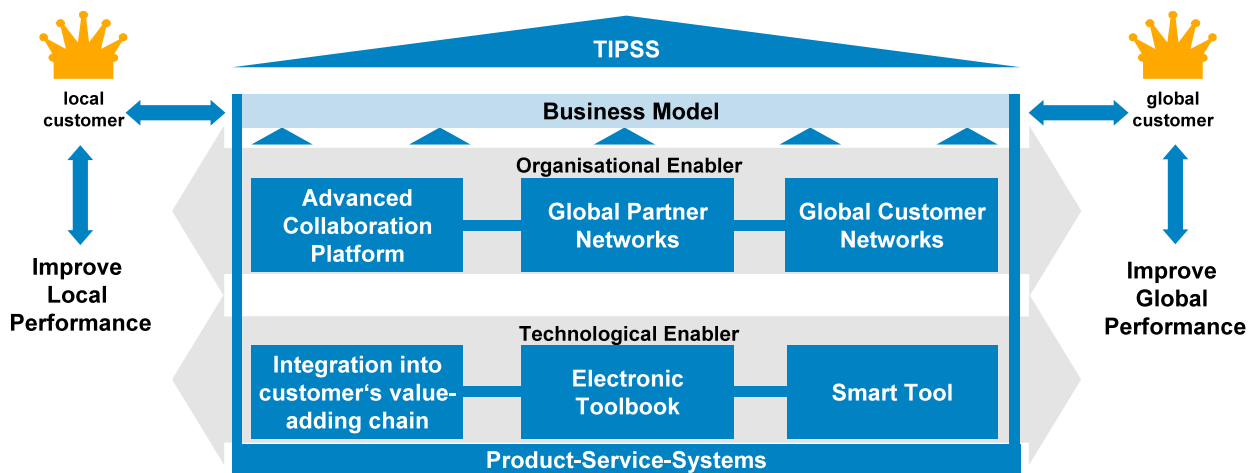


Figure 1: Objectives of TIPSS

While the focus within the TIPSS project lies on European based toolmakers, the TIPSS-IMS project aims at increasing the scope of the project outcome to include the needs of toolmakers in all IMS regions. These needs are in many respects similar to those of the European tooling industry, yet adjustments are necessary to accurately reflect the cultural and market specific differences.

APPROACH AND OVERVIEW OF PLANNED WORK

Participants of the TIPSS-IMS project:

1. CACO PACIFIC Corporation, USA (International Coordinating Partner (ICP))
2. Scuola Universitaria Professionale della Svizzera Italiana, Switzerland
3. Seoul National University of Technology, Korea
4. RWTH Aachen University, Germany (Coordinator of the FP7 TIPSS project and



preliminary ICP for the TIPSS-IMS project during the proposal stage)

The planned work of the participants during the projects duration of 3 years can be structured as follows (Figure 2):

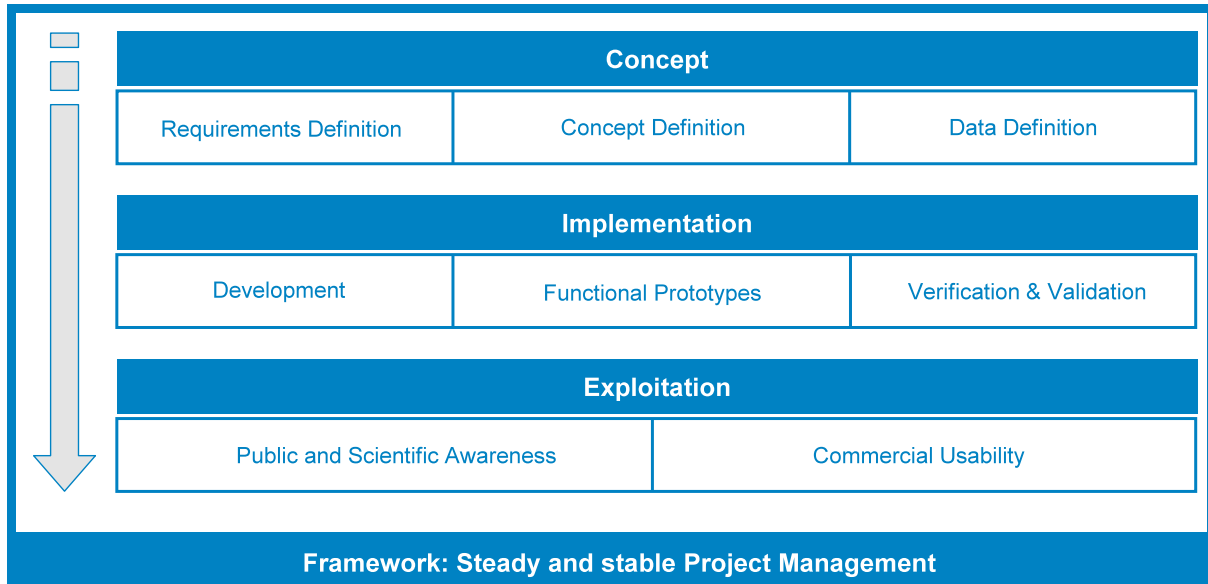


Figure 2: Structure of planned work

Description of the intended content of the work packages (WP):

WP 1: (IMS partners 1, 2, 3)

The goal of work package 1 is to elaborate eminent demands of parts producing companies towards their toolmakers from IMS regions. In addition, an as-is-analysis of the existing service-landscape within the tooling industry of the participating IMS regions gives an overview of the range of product-services offered and the degree of local presence in terms of proximity to customers and commercial partnership with affiliates worldwide. Along with elaborating these findings, the potential impact of the overall project objective will be assessed among the survey participants.

WP 2: (IMS partner 1)

The objective of work package 2 is to develop a concept for global tool and die networks. Cross-company and cross-country relationships regarding service activities demand collaboration along the entire life-cycles of both the tool and the customer's product whereas sourcing collaborations are inherently of a temporary design. An internet-based platform for collaboration in such global networks is the main result of this work package.

WP 3: (IMS partner 3)

Within work package 3 innovative business models in which toolmakers from IMS regions



act as network managers are designed. This task goes beyond an intensive review of highly respected theoretical concepts. Successful toolmakers and their business models are identified and a coherent plan for sustainable success of toolmakers is described in terms of a new business model. The business model shall enable toolmakers to act as managers of global partner and customer networks, describing his new role in globalised value-adding chains and industries.

WP 4: (IMS partner 1)

The goal of WP 4 is to ensure the practical relevance of the project results developed in the previous work packages. This is done via an assessment of the acceptance of product-service-systems among customers and the evaluation of the practicability of the collaborative business.

WP 5: (IMS partner 2)

Dissemination and exploitation of project results is a vital activity for all partners of the consortium. Innovations and advances, both technologically and strategically, made in this project have to spread within the IMS' tooling industry. In this context the following dissemination and exploitation actions will be taken:

- Disseminate the project results among toolmakers' customers and among the tooling industry itself.
- Identify the industrial ICT potentials and elaborate exploitation plans.
- Assess the expected socio-economic impact of the knowledge and technology generated in the project.

WP 6: (IMS partners 1)

The project's coordinator, CACO PACIFIC Corporation, is responsible for the co-ordination of the project in both administrative and technical terms. Its aim is to achieve an effective performance and execution of the project as well as the timely delivery of quality results. Specific management structures and techniques have been devised to support the following objectives:

- Achieve and maintain common understanding within the project.
- Establish appropriate project relations with and report to the funding IMS office.
- Organise and execute project meetings on all levels of the project management structure.
- Install appropriate review procedures within the project.
- Generate a high-quality technical documentation.
- Participate in and contribute to external events, including relevant workshops, seminars and conferences.

Therefore the objective of this work package is to ensure the proper execution of this



collaborative project and that all objectives are realised within the conditions of time, budget, control, effectiveness and qualitative output.

Connection with the TIPSS project:

The project work of the TIPSS-IMS project will be carried out by the IMS partners in collaboration with the project team of the EC FP7 funded TIPSS project.

Beneficiaries of the TIPSS project are:

1. RWTH Aachen University, Germany
2. University of St. Gallen, Switzerland
3. University of Rouse, Bulgaria
4. KTW Kunststofftechnik Waidhofen GmbH, Austria
5. SWA s.r.o., Czech Republic
6. WIRO Präzisions-Werkzeugbau GmbH, Germany
7. Feller Engineering GmbH, Germany
8. TXT e-solutions SpA, Italy
9. TECOS Slovenian Tool and Die Development Centre, Slovenia
10. CENTIMFE Centro Tecnológico da indústria des Moldes, Ferramentas Especiais e Plásticos, Portugal

COST ESTIMATE	DURATION (YEARS)	MEETINGS/YR
350,000.00	3	>2
PARTNERS		
MINIMUM 3 PARTICPANTS REQUIRED	CONTACT INFORMATION	
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VALUE-ADDED OF THE INTERNATIONAL COOPERATION

The international cooperation is an integral part of the TIPSS project with respect to establishing the initial concepts, implementing the solution and exploiting the project results. In WP 1 the integration of the partners in different regions of the world will help to better understand regional differences regarding the needs and demands of parts producing companies towards their toolmakers. In WP 2-4 the integration of partners from the global tool and die making community is vital to ensure the practical relevance of the project results with respect to the development of functional business models that enable the toolmakers to establish global partner and customer networks. Finally in order to fully exploit the results of the project an international team of partners is needed to spread the benefits of the TIPSS-IMS project within the IMS community.