



INTEREST –

INTEgrating REsearch and STandardisation

www.interest-fp6.org

The INTEREST project is a Specific Targeted Research Project (STReP) under FP6's 'Policy-orientated research' Priority. It responds to the Task 'Standardisation and optimisation of the interface of standards and research', which aims *"to develop a taxonomy of standards, methods for converting research results into standards, for the comparison between research outcome and the resulting standard(s); to develop techniques and tools allowing conformity testing and interoperability events to be done more accurately, faster and more cheaply."*

To this end, the project will first produce a taxonomy of standardisation products. In addition to the different taxonomies of standards, we will screen taxonomies of research results, like new materials, new processes, new tools etc. This will be the basis for an integration of the two taxonomies. Based on a taxonomy of research-standards-relations, the project will then develop best-practice guidelines for researchers, standards developing organisations (SDOs), and policy makers on how knowledge and technology transfer from research to standardisation should be supported, and accomplished in different sectors.

Work will start with a literature survey on the types of research and standard products, to be followed by a survey of the different interfaces that exist between research and

standardisation. Then, the rationales and incentives schemes that exist within the research communities, and their contacts to standardisation bodies and industry will be analysed through a survey-based study. This will also reveal any existing co-operation patterns (or the lack thereof). Following an indicator based approach, INTEREST will develop a matrix linking the science and technology base of companies (e.g. their patent portfolios) and their standardisation activities.

Through case studies the project will analyse the internal organisational structure of the interface between research and the standards departments within companies. Thus, solutions and organisational models can be identified suitable to support the transfer of research results into standards and to appropriate results from research institutions in order to transpose them into standards. In addition, the project will analyse the pros and cons of patent pools as a means to transfer complex research results produced by various partners to standardisation processes and to reduce complex IPR-related problems within standardisation processes.

Based on these new insights, and on the taxonomies of standards and research outputs, respectively, a taxonomy will be developed to characterise the typical relations between the two dimensions. This taxonomy, in turn, will be the basis for the identification of relevant combinations

between R&D, innovation and standardisation. It will also serve to develop specific policies, since standardisation does not only benefit from R&D, but has also positive impacts on innovation. Two interim workshops and a final one will provide platforms for discussions of the (preliminary) results with stakeholders, and for the validation of the project's final results. This validation will also take place in close co-operation with COPRAS (Co-operation Platform for Research and Standards), a project which monitors the standard-relevant output of IST projects.

The insights will be the basis for two guides, each targeting a different audience (R&D organisations and standards bodies, respectively). Also, the knowledge created by this project will be disseminated to the European and national standardisation bodies, and to research organisations.

Project Summary

The overall objective of INTEREST is to develop taxonomies of standards, of research outputs and of research-standards relationships and to contribute to the improvement of the interface between research and standardisation, and thus contribute to the effective diffusion and utilisation of research which is being performed in Europe.

In order to achieve this goal the following set of specific objectives has to be met:

- A thorough description of the state-of-the-art of the interface between research and standardisation.
- The identification of rationales and incentives schemes within the research communities and to contact standardisation bodies.
- The identification of the barriers that hamper the transfer of research results to the standards setting process.
- The development of a taxonomy of standardisation products, covering both formal and informal standardisation

bodies, and of a taxonomy of research outputs.

- The elaboration of a taxonomy of current research-standardisation-relationships.
- The definition of policies for the optimisation of the interface between research and standardisation possibly differentiated for relevant clusters of technologies including the development of an approach to enable the identification of the most appropriate types of standards products for different research sectors.

The Consortium

Knut Blind – The Fraunhofer Institute for Systems and Innovation Research, Germany [Co-ordinator]

ISI is an institute of the Fraunhofer Society devoted to socio-economic research in the fields of science and technology. Since almost ten ISI is active in standardisation research. Furthermore, it has a long experience in the management of international consortia.

Rudi Bekkers – Dialogic, The Netherlands
Dialogic is a small research and consultancy firm in the field of innovation processes and innovation policy. Its research focuses on how innovations take place and the role of users in the innovation process.

Kamal Hossein – The National Physical Laboratory, UK

NPL is a major National Metrology Institute (NMI) responsible for operating the National Measurement System in the UK, and co-ordinating its activity at a European level via EUROMET, and at world levels through the CIPM. NPL has wide experience in prospective studies and in the formulation of strategies and programmes for standards development.

Eric J. Iversen – NIFU STEP, Norway

The STEP-Group was established in 1991 to support policy-makers with research on all aspects of innovation and technological change, with particular emphasis on the

relationships between innovation, economic growth and the social context.

Kai Jakobs – Aachen University, Germany
RWTH is the largest Technical University in Germany. Its Computer Science department has been recognised as one of the leading departments in its field in Europe. Areas of research interest and expertise include mobile networks, distributed systems, network security, and standards research.

A Look Back Without Anger

Even before the start of the project, consortium members organised a session on 'The interface between standardisation and research' at the 2004 EASST¹ conference.

The overall objective of the session was to discuss and explore potential improvement of the interface between research and standardisation, and thus to contribute to a more effective diffusion and utilisation of research which is being performed in Europe.

Session Description

Standards play a vital role in the European market by promoting competitiveness and interoperability of products and services. They also serve to protect consumers and the health, safety and environment of citizens. The development of new and improved European standards requires high quality technical information. It is, therefore, important to ensure that standards are developed in an objective and timely manner and that their usage is free from obstacles. Otherwise, there is a risk that interests at national, industrial or technical level will bias standards in their favour, or delay their implementation. This creates one fundamental inter-dependency between the standardisation and research communities. Standards are the bridge between the technical domain and the economic, social and regulatory framework. Research can support the development of new and

improved standards through the provision of objective technical information. Yet, the links between R&D efforts and standardisation activities remain weak. Policy makers have realised the disadvantages that may result from this weakness. Recently, several projects were to devise measures how to strengthen it.

The three papers introduced and discussed different approaches to achieve this goal.

- The interaction of IPRs and standardization in different technical fields: patterns and policies
Knut Blind <Knut.Blind@isi.fhg.de> & Eric Iversen <ericiv@step.no>
- The COPRAS Project – a co-operation platform between research and standardization
John Ketchell <john.ketchell@cenorm.be>
- Patent pools as a possible route to reduce barriers to standards diffusion and technology transfer
Rudi Bekkers <bekkers@dialogic.nl>

The full paper by Blind & Iversen and abstracts of the other two papers are available via the conference web site at <http://www.csi.ensmp.fr/csi/4S/index.php>

Interaction between Research and Standardisation: The Case of Nanotechnology

Nanotechnology is regarded as one of the future key technologies. Not only public authorities, but also enterprises invest billions world-wide in the research into nanotechnology and its application possibilities. In electronics, nano-scale structuring in chip manufacturing or in the development of new computer hard disks are already standard procedure. Further future-oriented application potentials are seen in the automobile industry or chemical industry, among others.

The first preliminary analysis of the future need for standards in nanotechnology is based on a simple, functionally structured

¹ The European Association for the Study of Science and Technology.

standard typology. Accordingly, the following categories can be differentiated:

- measurement and testing standards (incl. terminology)
- quality and safety standards
- compatibility and interface standards.

For first of all, there is the necessity to explain and standardise the new terms emerging in the context of nanotechnology. This would mean efficiency gains in communication and co-operation, not only in the research field but also in commercial applications of nanotechnology. Agreements on measurement and testing methods in the nano-scale world are a further precondition for scientific further developments in the nano sciences, but also for the commercial application of nanotechnology. The social acceptance for products based on nano materials is a necessary prerequisite for their commercial success. Accordingly, the risks for health and the environment must be identified and corresponding precautions for their protection taken. State regulations will be unavoidable in this matter; however, these initiatives can be complemented by the development of quality and safety standards, which can adapt more flexibly and rapidly to the latest developments in science and technology. In the sense of self-regulation, standards can also relieve the burden of the state in the regulation of fields which are affected by nanotechnology. For the fast diffusion of whole systems which are composed of single components made of

nano materials, compatibility and interface standards in particular will be required in a later phase of the technology cycle.

The first rough overview of current standardisation activities in nanotechnology shows not only the varied needs, but also certain priorities time-wise. It is obvious that further commercial progress in nanotechnology can only be achieved if different types of standards will be developed. However, scientific progress in nanotechnology depends also on respective measurement and testing standards. This example confirms impressively the positive interrelationship between research and standardisation. In order to improve the efficiency of the whole research and even innovation system, the interaction between research and standardisation has to be improved in order to remain scientifically excellent and to become competitive in the world markets.

The full article about future demand for standards in nanotechnology will be published in the 'DIN-Mitteilungen', March 2005.

Upcoming Events

Hannover Fair, April 11, 2005:

Knut Blind: *Forschung und Normung: Potenziale und Herausforderungen (Research and Standardisation – Potential and Challenges)*

www.tech-transfer.info.