



INTEREST –

INTEgrating REsearch and STandardisation

www.interest-fp6.org

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It's been a while since our first newsletter, so it's little wonder that there are some new developments to report.

Literature Survey

The first Deliverable, a literature survey on taxonomies of standards (products) and research output in general, and on the interface between research and standardisation, was submitted on schedule. The following should give you a first impression.

The aim of this literature survey is to put the link between research and standardisation in a broader context, by reviewing relevant literature from several socio-economic fields, including the sociology of technology and science, as well as economics. The overall aim is to conceptualise the link between research and standardisation in the form of knowledge and technology transfer mechanisms from research to standardisation, and the effect standards have on research. Key issues discussed in this review include the demarcation of science and re-search from other modes of knowledge production, and in consequence, the localisation of standardisation and standards as external factors to research.

Drawing on the inherent logic of research, differences in institutionally prescribed settings between research and standardisation are described. The overall questions include:

- What are the parallels and differences regarding the realm of research and standardisation?
- Is there an institutional misfit between research and standardisation?
- What role do actor structures like networks play regarding the link between research and standardisation?
- Does the trend towards the capitalisation of scientific knowledge in the form of IPR

protection influence the link between research and standardisation?

- Are there disincentives for researchers to join standardisation?
- Do researchers from different disciplines or different organisational contexts perceive standards and standardisation in different ways and is this a function of their 'distance' towards industry?
- Do researchers from different contexts perceive the 'closure' element of standardisation as hampering or enabling for their work?

To address these questions key concepts and definitions are clarified first. This includes a discussion about research paradigms that are relevant for the assessment of the link between research and standardisation. Special attention is paid to the conceptual description of science and research, technology, standards, and the interrelation of theories regarding those concepts. In the next step, an overview of existing concepts of standards classifications is provided. Subsequently, the scientific knowledge production process and the certification of scientific knowledge are discussed. This is followed by a description and discussion of the trend towards the capitalisation of scientific research results in the light of standardisation, and of the role standards can play as promoters of stabilisation. This is done with reference to both research and standardisation. Finally, different models of technology transfer are discussed and assessed in the context of research and standardisation.

The full text of the deliverable can be accessed through the project home page at <http://www.interest-fp6.org>.

Workshop

The first of the series of three INTEREST workshops took place on 16 November, in

conjunction with a meeting of the CEN-STAR group. This event was aimed at the standards setting community. The overall goal of the workshop was twofold. First it served to raise awareness of the standards setting community (including standards setting bodies and individuals with experience in standardisation regarding the problems and issues to be associated with the transfer of knowledge from research and development to standardisation. Second, the workshop was also supposed to highlight the opportunities for the standardisation community that lie in a better deployment of the knowledge more or less readily available from the R&D sector.

To do so, external speakers were invited to complement INTEREST's views and findings. One of them, Bart Brusse, discussed how the COPRAS project bridges the gap between IST research and standardisation. This project identifies, and subsequently supports, other FP6 projects, which show a promising potential for providing input to the standards setting process. Moving over to some of INTEREST's preliminary findings, a basic model of the interaction between research and standardisation was presented by Knut Blind. He looked the recursive interdependence between standardisation and research, and at the role of different types of standards in the innovation process. Subsequently, Stefan Gauch quantitatively explored the link between a firm's technology portfolio and standardisation activities. This is ongoing work; findings so far show that the employers of TC chairs hold patents in the TC's area on less than one third of the cases. However, based on this indicator it was possible to produce a matrix, which underlines that companies focus their participation on those TC's, which correspond to their patent portfolio. Knut Blind and Stefan Gauch then presented some preliminary results of a survey among FP5 participants. Among other aspects, they had looked at the barriers to the transfer of research results into (formal) standardisation, at potential ways how to overcome this barrier, and at the assessment of the role of researchers in standardisation, as identified by coordinators of FP5 projects. The first part of the WS was concluded by the presentation of a case study looked into the organisation of the interface between research and standardisation in a major company in the shipbuilding sector, by Heide Coenen. This company recognises the value of standards in its domain, and has identified a number of both success factors and areas of improvement.

Part two of the workshop started with a presentation by another invited speaker, Philippe Quevauviller, of DG Environment. He described an

interface implemented between science and policy in support of water and marine policies, thus extending the discussion on the research-standardisation interface. His longer-term vision is to implement a platform that provides access to relevant research output, data, and communication facilities in support of policy making.

The presentations are available via the INTEREST home page at <http://www.interest-fp6.org>.

Case-based focus

Work has also gotten underway on two sets of cases related to issues and challenges related to integrating research and standardisation. The first explores the interface the level of individual organisations, while the second looks at institutional mechanisms to overcome coordination problems, especially related to IPR concerns, at the research-standardisation interface. The output of these twin exercises will be presented in deliverables (D04, due in March 2006) which will synthesise the empirical information from the cases. In the meantime, the interested reader can find some preliminary information below.

Managing the interface within organisations

An important dimension of the interaction between research and standardisation is the question of how it takes place within organisations. In the second work package, the project first delves into how firms and research institutes which have active interests in the research and the standardisation worlds organise their relevant activities internally.

In this light, the project is currently carrying out a set of ten case-studies which cover the interface between research and standardisation activities in a range of organisations. The focus here is on organisations whose stakes in relevant areas of research and in standardisation raise the question of how the relevant activities are arranged. Cases have been selected in order to explore issues and challenges that arise in a range of contexts. The cases will look at national research institutes as well as a range of different enterprises. They will include research intensive fields such as ICT, consumer electronics, as well as life-sciences; they will look at enterprises in mature as well as in service industries; and they will look at both larger and smaller firms.

The case-based examples will draw on interviews and other sources in order to provide empirical information about how the relevant activities are organised in different organisational settings, about the types of challenges that are faced, and, where

relevant, about potential ways to improve the coordination of the research and of standardisation activities. Although the ten cases can in no way be seen as representative of the issues and challenges that arise in every context, they will provide useful illustration that will complement the following set of cases as well as the project's work more generally.

The main output from this exercise will be a report (due in March 2006) that synthesises the empirical information from the cases. The case studies from the individual organisations will be written up individually as well, but as background material to lay the basis for this WP2 report.

Coordination of IPR in standardisation

Another important dimension involves institutional mechanisms to address problems that are cropping up more broadly at the research-standardisation interface. Here, there is a widely noted need to improve coordination between private interests broadly associated with research investments and the collective interests which standardisation implies. A major concern that has developed at this fault line involves how to equitably deal with patents and other IPRs in the standardisation frame.

The project is therefore initiating a set of three cases into patent pools and related strategies to overcome coordination problems at the research-standardisation interface. We assume that there are current characteristics in the 'market for knowledge' which heighten the importance of mechanisms to coordinate research and standardisation activities. One aspect of these is that they introduce new concerns which potentially affect the interrelationship between research and standardisation activities.

The cases will look at the coordination of IPRs in telecommunication standards, especially those related to mobile telecom systems as well as the coordination of IPRs in standards related to consumer electronics. A third case is still under consideration. The cases will be integrated into deliverable D04, due in the first quarter of next year.

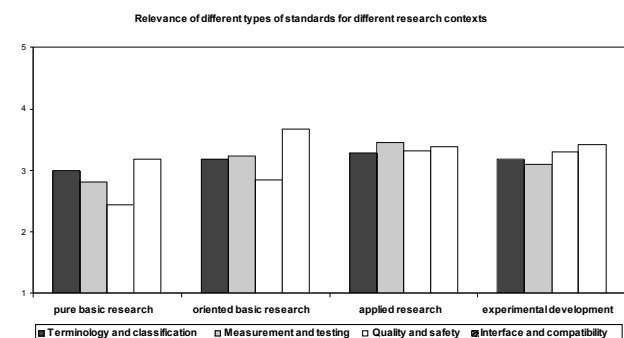
Standards matter for research – but not all types for all researchers

Standards are – stereotypically – believed to be relevant only as a diffusion catalyst for innovations, generating economies of scale, building critical masses, creating network externalities, and reducing costs of transaction of information. Accordingly, standards should not be relevant for

those researchers who not engaged in market activities.

In the light of some of INTEREST's findings this monolithic view of standards may very well need re-consideration. The team has analysed survey data collected from more than 500 FP5 project participants. These data were differentiated by types of standards, like e.g., standards for terminology, measurement & testing, quality & safety, or those facilitating compatibility between interfaces and products or services. This analysis shows that in fact different types of standards do matter for different contexts of research.

The figure below shows the results of one set of questions on the relevance of different types of standards. These types have been rated by the respondents on a 1 to 5 scale (1 indicating very low relevance and 5 indicating very high relevance), and analysed according to the respondents' respective research contexts. It turns out that basic researchers, for instance, are interested in terminology standards, which help them to communicate with researchers from other research contexts, like oriented basic researchers or applied researchers. At the same time, however, they are less interested in measurement & testing, or in standards on quality & safety. As knowledge moves along its way from ideas towards products and services, and is passed on from one research context to another, the differences between the relevance of standards level out, with experimental developers assigning largely the same relevance to all types of standards. Moreover, quality & safety standards or measurement & testing standards gain in importance as knowledge is passed from one stage in the process to the next one.



These results confirm the expectations formulated in the INTEREST literature survey (which is available through the project home page at <http://www.interest-fp6.org>).

The high relevance levels associated with compatibility standards at early stages cannot be explained by the differences in research contexts. It may, however, be explained by a varying degree of

relevance assigned to such standards by different technical fields. One example for such differences is the special importance of compatibility standards in ICT research, where such standards play a major role for basic research, and by the large share of survey of respondents from this field (40% of respondents to the mentioned survey are from the field of ICT research).

If you, as a reader of this newsletter, have additional interpretations regarding the above figure the INTEREST team will be happy to take them into account. Please feel free to contact Dr. Knut Blind or Stephan Gauch at interest@isi.fraunhofer.de.

For the Diary

INTEREST events

- 2nd Workshop: 2 March 2006, Lisbon (in conjunction with the annual conference of EARTO, European Association of Research and Technology Organizations). <http://www.earto.org>.

Conferences

- I-ESA 2006, Interoperability for Enterprise Software and Applications Conference, 20 – 24 March 2006, Bordeaux, France, A member of the INTEREST consortium is co-organising a session entitled 'Focus on IT

Standardisation (FITS)'. One of the topics is 'From research to standards'.

<http://www.i-esa.org>.

- EURAS 2006, European Academy for Standardisation, 8 – 10 June 2006, Hamburg, Germany, A special session on 'Standardisation and Research' will be organised <http://www.euras.org>.
- EASST 2006, European Association for the Study of Science and Technology, 23 – 26 August, 2006, Lausanne, Switzerland, A session is being organised, entitled 'Standards research - results and their deployment'. <http://www2.unil.ch/easst2006/>.
- EuroMOT 2006, Second European Conference on Management of Technology, 10 – 12 September 2006, Birmingham, United Kingdom, <http://www.iamot.org/>.

Papers etc

Werle, R. & Iversen, E.: Technical standardization, democracy and civil society. Presented at the SCORE Conference 'Organizing the World'. Stockholm, Sweden. October 13-15, 2005