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11th EURAS Workshop on Standardisation Hamburg, Germany, 2006-06-08/09 was attended by about 40 people. 23 papers covered themes like Standards Processes, Strategies, Dynamics, Application areas (UMTS, Trade and Services, Audio Platforms), Innovation, Regulation and Patents. The interface between research and standardisation was addressed by several papers presenting results from the Europe funded projects INTEREST and NO-REST.

Two keynote papers addressed education and research in standardisation and the history of standardisation in biology. A special subject addressed by the first paper was the International Committee for Education about Standardization (ICES), which had its first meeting in Tokyo, Japan, 2006-02-06/08 and will have its next meeting in Delft, The Netherlands, 2007-02. This should enable a larger European participation. Contributions to the first meeting were from Canada, China, Japan, Korea, The Netherlands, Singapore and USA.

Standards Processes, Strategies and Dynamics: Changes of standards like revisions, replacements or withdrawals poses serious problems to standard users. The case studies carried out by the European NO-REST project indicate that changes can be categorised as generally unavoidable and even desirable, or unnecessary and to be avoided. Unavoidable causes are: technology-, market- and standard developments and implementation settings, and regulatory changes (*Egyedi, p99*). Addressing decision making processes in large organisations, the proposal creation and agenda setting by committees are described and analysed using game theories (*Gröndahl, p139*). Distinguishing between the leader and the follower, the paper describes optimal investment strategies in the presence of indirect network effects (*Moenius, not published*).

Economic impact: A focussed literature review of 100 papers based on a selection of some relevant papers and extended by forward and backward references revealed a set of 23 factors that contribute to the selection of a dominant standard and its related technology. The 23 factors have been arranged into 5 main groups: superior product, mechanisms, stakeholders, dominant agent, and market entry strategy. The factors have been validated using the VCR case study (*Almarini et al, p1*). Data from European industry confirm the contribution to economic growth by both patents and technical standards. But the analysis by industry sectors reveals a difference for dynamic industries vs. mature ones. Whereas contributions are larger for patents more in the former, standards contribute more in the latter industries. However, contributions by patents are in general larger (*Blind & Jungmittag; p 71*).

General: Results from a European survey on the role of regulation on innovation indicate a significant difference between governmental (mostly safety, quality and liability regulations) and non-governmental regulation (standardisation or self-restrictions), with both can be a driver as well as an obstacle for innovation activities. However, an overall positive effect on innovation has been observed (*Blind, p51*). A renormalization process enables comparison of individual judgement based categorisations (*Bolle & Kemp, p85*). Results from the European INTERST project are presented relating to the link between research and standardisation, which is identified as technology transfer. A framework is described, which highlights institutional barriers and researchers motivation and incentives linking those to related theories (*Gauch, p107*). An INTEREST project survey of more than 500 European FP5 project participants indicate that different types of standards like for terminology, measurement & testing, quality & and safety or compatibility for interfaces, products or services may be very relevant for different context of research work (*Gauch & Blind, p119*). An overview of the influence of standards on innovation is presented and a framework to explain the strategic importance of different types of standards for technology change and innovation is described. Using three life cycle phases to describe the dynamics of innovation (fluid, transitional, specific) the related standard types are

identified (anticipating, enabling and responsive standards). Preliminary findings from a case study on RFID are mentioned (*Spirco, p165*). The language policies of international standards organisations are discussed and results from an IEC questionnaire on future language policies are presented. Whereas English is the dominant language in standardisation work the majority of replies indicated the need for two official languages with French as the second language. In addition Spanish has been proposed as a third official language (*Teichmann, p173*). The paper outlines the application of risk management techniques to GRP (Good Regulatory Practice) in the selection of regulatory measures, expressing regulations in performance rather than prescriptive terms and using existing voluntary standards and conformity assessment processes (*Walsh, p181*). To avoid an opportunistic involvement of innovators in the standardisation process, but to capture their knowledge the paper attributes a genuine motive, non-opportunistic motive to participate in a SSO and proposes a three-tier sequential standardisation process with different membership and associated selection skills to select only the most promising technology (*van Wegberg, p193*). Describes coordination mechanisms for multi-party IPR holders in case of patent pools and related standards (*Bekkers, not published*).

Application Areas: The strategic role of patents in the evolution of both innovation and standardisation in telecommunication has been investigated by analysing 1227 patents - held by 73 firms - relating to UMTS and showing how differences in timing and scope relating to business model, competitive position and role in standardisation activities of the companies (*Bekkers & West, p17*). Standardisation of trade in services is investigated from a theoretical point of view and by identifying different types of standards used by European service companies (*Blind, p41*). Market success in nano technologies in Germany is hampered by the current lack of standardisation initiatives. Problems like insufficient participation in standardisation activities and possible solutions are presented (*Blind & Gauch, p 61*). The relations between services, standardisation and knowledge management in a process oriented service organisation are investigated and the results indicate positive consequences for implementations using all three concepts (*van Delden & de Vries, p91*). A framework for analysis of the ICT standardisation process is proposed and validated through a case study in the auto industry. The framework consists of two components: the arena of standardisation for the analysis of the actors (industry and project level) and the dynamics within the arena, the process of change resulting from the actor interactions. (*Gerst & Bunduchi, p129*). A variety of digital audio platforms have been developed that compete in the market, each one promoting its own specification. Technological compatible standards should enable the selection of the dominant technology. The paper investigates the SDO (Standard Development Organisation) standardisation process focussing on the conflict between the technology openness required by the standards and its closure granted by patents and compares the results with company led market standards. Conclusions are that in spite of available standards the market is still fragmented and access to different platforms is not really possible (*Zazzzerini, p213*).