

# Can't we all just get along?

## IPRs, standards, interoperability, governance and cooperation

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# Background

- strong growth of applications and registrations of intellectual property rights (IPRs) driven by policies and strategic motives to patent (e. g. Blind et al 2006, 2009)
- incentives of IPR institutions to award IPRs also in new fields like software (e. g. Blind et al. 2005)
- quality discussion regarding IPRs (patent thickets, patent trolls etc.)
- meanwhile stronger focus on standardisation and standards by policy makers and companies also due to increasing need for interoperability
- further differentiation, but also fragmentation of standardisation landscape (Blind and Gauch 2008) and products, e. g. due shorter technology life cycles and globalisation
- coordination problems between standardisation bodies, e.g. standard battles
- increasing interactions between IPR and standards



# Economic Rationales of IPR Regimes

- incentive function by awarding a (temporary) monopoly in order to foster investment in R&D
- disclosure function by requiring the disclosure of the protected content in order to foster diffusion of (technological) know how
- coordination function by requiring the disclosure of the protected content and by awarding a (temporary) monopoly in order to avoid duplication of research efforts and to foster licensing and sequential innovation
- however, costs of IPR regimes caused by permanent monopolies, patent thickets, patent races and patent information overflows



# Economic Effects of Standards

Type of Standard	Positive Effects	Negative Effects
<b>Compatibility / Interface</b>	<ul style="list-style-type: none"> <li>• Network externalities</li> <li>• Avoiding lock-ins</li> <li>• Increased variety of systems products</li> </ul>	<ul style="list-style-type: none"> <li>• Monopoly</li> </ul>
<b>Minimum Quality/ Safety</b>	<ul style="list-style-type: none"> <li>• Correction for adverse selection</li> <li>• Reduced transaction costs</li> <li>• Correction for negative externalities</li> </ul>	<ul style="list-style-type: none"> <li>• Regulatory capture</li> <li>• 'Raising rival's costs'</li> </ul>
<b>Variety Reduction</b>	<ul style="list-style-type: none"> <li>• Economies of scale</li> <li>• Building focus and critical mass</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced choice</li> <li>• Market concentration</li> </ul>
<b>Information</b>	<ul style="list-style-type: none"> <li>• Facilitates trade</li> <li>• Reduced transaction costs</li> </ul>	<ul style="list-style-type: none"> <li>• Regulatory capture</li> </ul>

Source: Blind (2004) modified after Swann (2000)



# Economic Benefits of Standards for Innovation

- Incentive function
  - leveraging temporary monopoly of incorporated IPR
  - investment in complementary R&D
  - pooling of IPR in standards reduces transaction costs
  - realisation of economies of scale (variety reduction) and positive network externalities
- Diffusion function
  - free use (depending on the licensing regime)
  - already during the standardisation process, but finally with the publication of standards
- Coordination function
  - significant restriction of parallel developments of standards
  - allowing transition from old to new technologies
  - reducing inefficiencies of too fast change to new technologies (excessive momentum)



# Economic Costs of Standards for Innovation

- Incentive function
  - establishing a monopoly due to the combination of IPR and standard-based network externalities
  - lock-in in inferior (old) standards
  - inefficiencies due to standard wars
- Disclosure function
  - standard thickets due to fragmentation of the standardisation landscape and the increased interrelation between standards causes an information overflow
- Coordination function
  - inefficient parallel standards
  - lock-in in inferior standards (excessive inertia)



# Possible Conflicts between IPRs and Standards

- influence of patenting strategies on standardisation (Blind 2008a), e.g. blocking of standardisation processes by withholding essential IPR
- unintended infringement of unknown IPRs related to the development and the implementation of standards
- strategic ex post disclosure of IPR after completion of standardisation processes (submarine patents)
- problems with Fair Reasonable and Non-Discriminatory (FRAND) licensing of IPR implemented in standards (Blind et al. 2002)
- accumulation of licensing fees for IPRs by different owners



# Policy Challenges

- IPR strategies (and policies) have an increasing influence on standardisation activities, which require in general a better coordination between IPR and standardisation policies
- in general different institutions with still low level of coordination
- three-level-structure both in IPR regimes and standardisation generates further intertwined cross relations
- differences in IPR regimes of formal and informal standardisation bodies have to be taken into account in the current discussion of the new relationship between formal and informal standardisation bodies (e. g. regarding the regulatory framework, public procurement (Blind 2008b) etc.)



# Solutions

- assure a high level of quality of IPRs (especially patents), thus reducing the risk of conflicts arising from low quality IPRs (e.g. trivial patents) also by stronger collaboration between IPR institutions and standardisation bodies
- promote a world-wide harmonisation of national IPR regimes in order to decrease the likelihood of conflicts caused by cross-border application of technical standards
- improve the transparency and accessibility of IPR material in order to make monitoring in the IPR minefield easier
- provide transparent guidelines for licensing of IPRs integrated in standards
- coordinate, but do not harmonise IPR and licensing rules of formal standardisation bodies with those of standardisation consortia



**Thank you for your attention!**



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