

# 6. Standards, Competition and Intellectual Property Rights

an overview of current controversies

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## 6.1. Introduction

Industry standards create compatibility and interoperability among products and services. This is increasingly important, not least in network industries such as IT and telecoms “where the need for devices and networks to interoperate creates strong pressure for industry participants to devise common technical standards.”<sup>1</sup> The ability to interact and interoperate is at the core of the many IT- or telecom based products and services that the average consumer uses on a daily basis.<sup>2</sup>

Industry agreements and collaboration on standards display particular features. Whereas antitrust concerns often arise where collaborative product development involves competitors who comprise a significant share of the market, the social benefits of standards generally increase as the standard is increasingly employed. To do the job, standards inherently reduce the number of technical formats or variations at the level that is being standardised. As a consequence, competing technologies and products which are not compliant with the industry standard often struggle to make it

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<sup>1</sup> Mark MacCarthy, Open Standards, Competition and Patent Policies, unpublished manuscript, Georgetown University (2009), p. 2. Available at [www18.georgetown.edu/data/people/maccartm/publication-43082.doc](http://www18.georgetown.edu/data/people/maccartm/publication-43082.doc).

<sup>2</sup> Apart from allowing for interoperability, agreement on certain technological formats and trajectories can also reduce risk and speed up market adoption of new technologies. Implementers might otherwise have to risk investing in one out of several technologies without knowing whether or not it will become redundant and buyers of the products and services might hesitate to purchase a certain variant until a de facto standard has emerged. This means that the standardisation leads to economic benefits through unified platforms for the development of new products, network effects in the introduction of new technologies and economies of scale in production. Standardisation may also stimulate competition and lower prices in markets for standardised products and components by increasing the substitutability among different manufacturers' products. See Marcus Glader, Open Standards: Public Policy Aspects and Competition Law Requirements, 6 Eur. Comp. J. 611 (2010).

to market or to gain significant sales. Important industry standards may therefore become decisive for the ability to compete in the market place. This highlights the relevance of access to the standard setting process as such, and access to the standardised technologies, including any IPR, needed to implement the standard.<sup>3</sup>

Standard setting organisations (“SSOs”) frequently require participants to disclose any IPR essential to the prospective standard and make an irrevocable commitment to license such patents to anyone on FRAND terms. This is to permit the SSO to make informed decisions when choosing from among candidate technologies for inclusion and to reduce the likelihood that patent owners will abuse market power resulting from inclusion in the standard. Once a standard is adopted and implementers make investments tied to the standard, industry may otherwise become vulnerable to “patent hold-up.”<sup>4</sup>

Both EU and U.S. antitrust authorities have expressed concerns about the raging patent war in the digital economy sectors, and in particular the role played by standards essential patents (SEPs). The EU Commissioner responsible for Competition Policy recently declared:

I believe that both competition authorities and courts should intervene to ensure that standard-essential patents are not used to block competition....

I am determined to use antitrust enforcement whenever necessary to prevent any anti-competitive conduct by holders of standard essential patents in the future.<sup>5</sup>

The question nevertheless remains what the origins of current controversies are and to what extent they are best addressed by antitrust authorities. This presentation is intended to provide a brief overview of current controversies, considering what has been denoted the three pillars of the innovation economy: patent rights, standard setting and competition.<sup>6</sup>

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<sup>3</sup> For a more elaborate description, see Marcus Glader, Open Standards: Public Policy Aspects and Competition Law Requirements, 6 Eur. Comp. J. 611 (2010).

<sup>4</sup> See e.g. Mark A. Lemley & Carl Shapiro, Patent Holdup and Royalty Stacking, 85 Texas Law Review 1991 (2007); Farrell et al, Standard Setting, Patents, and Hold-up, 74 Antitrust L.J. 603 (2007).

<sup>5</sup> Joaquín Almunia, Competition policy for innovation and growth: Keeping markets open and efficient SPEECH 12/72, Address at European Competition and Consumer Day, Copenhagen Denmark 8 March 2012, pp. 5-6. Available at [www.europa.eu/rapid/press-release\\_SPEECH-12-172\\_en.pdf](http://www.europa.eu/rapid/press-release_SPEECH-12-172_en.pdf)

<sup>6</sup> See Joseph F. Wayland, Assistant A.G. Antitrust Division of the U.S. Department of Justice, Antitrust Policy in the Information Age: Protecting Innovation and Competition. Remarks Prepared for the Fordham Competition Law Institute 21 September 2012. Available at <http://www.justice.gov/atr/public/speeches/287215.pdf>.

## 6.2. An IP law issue

### 6.2.1. The proliferation and quality of patents

The number of patent grants is steadily increasing, and many firms in the IT and telecoms sectors have built up considerable portfolios over the years. Among more valuable inventions, many patents cover trivial features or technologies, with little technical or commercial value, the potential infringement of which often would be an accidental consequence of parallel product development. As a result, a single device could trigger a vast number of patent claims which, if tried in court, would likely be held invalid, have their scope significantly restricted or be found not to be infringed.<sup>7</sup> In this context, it has been estimated that a single smartphone potentially could involve more than 250,000 patent claims.<sup>8</sup> Significant uncertainty about the validity and scope of the legal rights being granted as well as the commercial significance of the invention being patented has given rise to the notion of “probabilistic patents.”<sup>9</sup>

Despite the proliferation of patents, patent portfolios held by mature incumbents can in some circumstances work as mutual deterrents, cautioning these market players from suing each other or inducing procompetitive cross-licensing. Potential patent claims can be ignored at the product development stage and potential patent issues which later materialise can be resolved through cross-licences at low royalty rates.<sup>10</sup> The Economist recently reported:

[I]nnovations in IT usually rely on many small improvements involving numerous technologies, which means it is not always clear precisely which inventions a patent covers. The open secret is that everyone infringes everyone else's patents in some way. This creates an incentive for firms to build up their patent portfolios to strengthen their position in negotiations, leading to what some liken to an arms race. The legal tussles usually end in cross-licensing deals, in which

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<sup>7</sup> See e.g. Mark A. Lemley, Ignoring Patents, 2008 Mich. St. L. Rev. 19, 27 pointing to studies showing that as many as 75% of litigated patents turn out to be either invalid or not infringed. See also Patent medicine Why America's patent system needs to be reformed, and how to do it, The Economist, August 20, 2011, <http://www.economist.com/node/21526370> (“What has gone wrong? The prizing of patent quantity rather than quality—lawyers are said to compare portfolios by measuring the height of their respective piles—is one cause for concern, a second is the rise in dubious patents, particularly in the fields of software and business methods, that should have never been awarded.”)

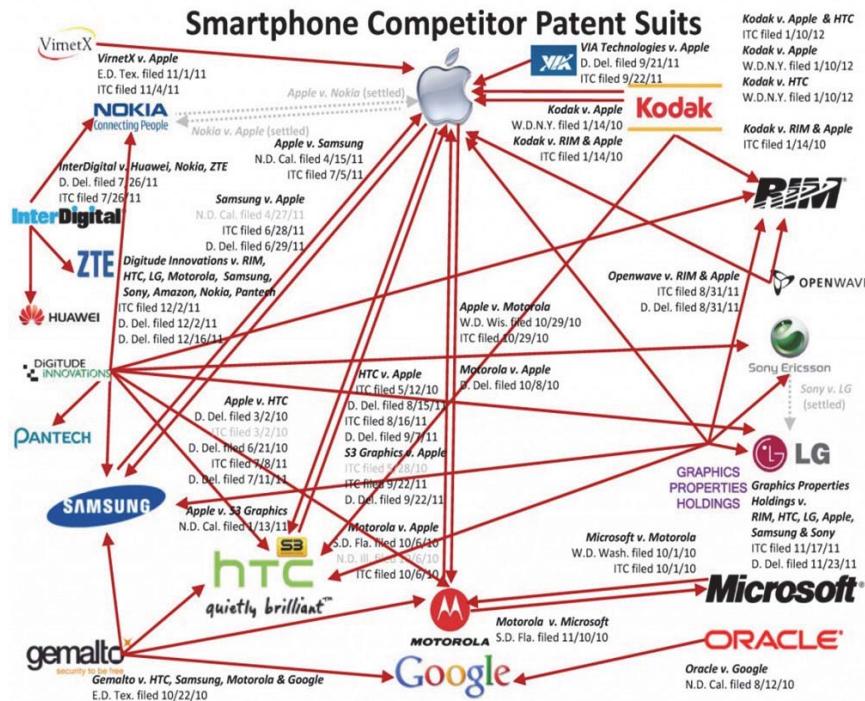
<sup>8</sup> Cf. Richard Waters, Tech patent arms war reaches new level of intensity, Financial Times, 30 March 2011. Available at <http://www.ft.com/intl/cms/s/0/b0da8540-5aea-11e0-a290-00144feab49a.s0!1.html#axzz1dz6Ru0Eb>.

<sup>9</sup> Mark A. Lemley & Carl Shapiro, Probabilistic Patents, 19 J. Econ. Persp. 75 (2005).

<sup>10</sup> See e.g. Lemley, Ignoring Patents, Fn 7 supra.

small sums of money change hands. This is considered preferable to a mutually destructive exchange of endless lawsuits.<sup>11</sup>

The level of patent litigation in the IT and mobile spaces nevertheless suggests licensing or mutually assured destruction does not operate without friction. Cold war deterrence has developed into “nuclear warfare.” As one industry analyst put it: “Patent litigation in the mobile space is out of control. It has become a game with too many playing cards for anyone to win.”<sup>12</sup> Wikipedia tries to keep a list of the evolving litigation landscape<sup>13</sup>, PCMagazine provides a snapshot illustration of which is set forth below:<sup>14</sup>



The development of extensive portfolios by incumbent firms has created a significant patent imbalance. The Financial Times recently pointed out: “Young companies that haven’t had a chance to amass their own stocks of

<sup>11</sup> Inventive warfare Battles over patents are becoming fiercer and more expensive, The Economist, August 20, 2011. Available at <http://www.economist.com/node/21526385>.

<sup>12</sup> James Kendrick, Mobile patent litigation: A game with too many playing cards, 8 September 2011 on online at ZDNet.com. Available at <http://www.zdnet.com/blog/mobile-news/mobile-patent-litigation-a-game-with-too-many-playing-cards/4291>.

<sup>13</sup> Found at [http://en.wikipedia.org/wiki/Smartphone\\_wars](http://en.wikipedia.org/wiki/Smartphone_wars).

<sup>14</sup> From Sasha Segan, Infographic: Smartphone Patent Wars Explained, 19 January 2012 at PCMag.com. Available at <http://www.pc当地.com/article2/0,2817,2399098,00.asp>. Source: Verizon.

patents, or those moving on to new technology turf, are the ones most at risk [for claims].<sup>15</sup> To overcome the perils of this unbalance was, for example, the reason behind for Google's U.S. \$12.5 Billion acquisition of Motorola Mobility and its patent portfolio.<sup>16</sup>

This does not only concern patents claimed as essential for standards. Pending lawsuits regularly include both essential and non-essential patents and the assertion of large portfolios of non-essential patents can be a very effective strategy. It is for example reported that Microsoft makes more money from Android than its own operating system after having concluded licences with most Android OEMs at fees comparable to the price it charges for the Windows Phone operating system (both IP and software).<sup>17</sup>

Also, industry participants do not only risk facing patent litigation from operating companies. Litigation initiated by Patent Assertion Entities (PAEs)<sup>18</sup> is surging. The business model of these entities is to maximise revenues from patents.<sup>19</sup> Unlike "operating companies" with downstream production activities, PAEs are not vulnerable to countersuits and do not need a cross-licence, which increases their ability and incentive to aggressively enforce their patents at high royalties.

Large-scale spend on defensive patenting, patent thickets of uncertain scope and validity and industry-wide litigation arguably do little to promote innovation, let alone to promote efficient market processes. If it is accepted that well-defined property rights are the basis for well-functioning markets, a system where the majority patents litigated patents are found (entirely or

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<sup>15</sup> R Waters, Fn 8 supra.

<sup>16</sup> See Case No COMP/M.6381 - Google/Motorola Mobility, (13 January 2012), para 118 ("...the documents on the file show clearly that Google's rationale for the transaction is to create "patent balance" in the smart mobile device industry and to preserve the ability of Android OEMs to compete and innovate free from the costs and uncertainties of litigation and litigation threats.") See also Bloomberg.com Editorial, Google's Motorola Deal Shows Need for Better Patent System, (18 August 2011). Available at [www.bloomberg.com/news/2011-08-19/google-s-motorola-deal-shows-need-to-developbetter-patent-system-view.html](http://www.bloomberg.com/news/2011-08-19/google-s-motorola-deal-shows-need-to-developbetter-patent-system-view.html).

<sup>17</sup> Josh Halliday, Samsung and Android Settle Android Licensing Dispute, The Guardian, (28 Sept 2011). Available at <http://www.guardian.co.uk/technology/2011/sep/28/samsung-microsoft-android-licensing-dispute>; Gavin Clarke, Behind Microsoft's \$15 Samsung Android royalty claim, The Register.com (6 July 2011). Available at [http://www.theregister.co.uk/2011/07/06/motorola\\_samsung\\_patent\\_shakedown/](http://www.theregister.co.uk/2011/07/06/motorola_samsung_patent_shakedown/).

<sup>18</sup> PAEs are colloquially referred to as "patent trolls." The term "non-practicing entity" (NPE) is broader, encompassing patent owners who primarily seek to develop and transfer technology, such as universities. See e.g. FTC Report, The Evolving IP Marketplace: Aligning Patent Notice and Remedies with Competition, (March 2011), p.8 footnote 5. Available at <http://www.ftc.gov/os/2011/03/110307patentreport.pdf>.

<sup>19</sup> James E. Bessen, Michael J. Meurer & Jennifer Laurissa Ford, The Private and Social Cost of Patent Trolls (Bost. U. Sch. L. Research Working Paper No. 11-45, 2011) (revised 9 November 2011), p.4. Available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1930272](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1930272). ("...we find that the aggregate loss of wealth to these firms exceeds half a trillion dollars. Over the last four years, the loss of wealth exceeds \$83 billion per year.")

partly) invalid cannot reasonably pass the mark. The President of the European Patent Office has pointed to poor patent quality as a contributing factor to the current patent wars.<sup>20</sup> While admitting that some of the disputed patents have been granted by the EPO, and suggesting that patent authorities should be restrictive when they grant patents, the EPO chairman considers the problem greater in the U.S.<sup>21</sup>

The U.S. Federal Trade Commission (FTC) has repeatedly made recommendations for improving patent quality as a means of balancing exclusivity and competition, promote innovation and mitigate inefficiencies resulting from patent thickets.<sup>22</sup> Recently, the FTC made additional recommendations in an attempt to further alignment between patent law and competition policy, proposing reforms in two areas: (1) improved notice, i.e., better informing the public of which technology is claimed by a patent; and (2) improved patent infringement remedies.<sup>23</sup> As part of the latter, and in connection with the availability of injunctions, the FTC maintains that courts should not presume irreparable harm based on patent infringement, but instead should consider whether the four factors articulated by the U.S. Supreme Court in *eBay v. MercExchange* have been satisfied before awarding injunctive relief.<sup>24</sup> This is currently a hot topic in the standards context.

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<sup>20</sup> MLex, “EPO chief points to patent quality as a factor in smartphone litigation”, MLex news report from IP Summit, Brussels, 6-7 December 2012. Available at <http://www.mlex.com/EU/Content.aspx?ID=296397>.

<sup>21</sup> Id. The EPO has set up an Economic and Scientific Advisory Board that will advise the EPO on the economic, practical and societal impact of the patent system. Among its first topics are patent thickets and patent quality. See EPO news, “Patent thickets, patent fees and patent quality: Advisory Board sets priorities for investigations”, (24 January 2012). Available at: <http://www.epo.org/news-issues/news/2012/20120124.html>. European experiences suggest patent quality issues are not limited to U.S. For example, after Nokia was hit by €12 billion royalty claims from patent troll IPCOM, the two entities became involved in extensive patent litigation. It appears, at the end of the day and after millions spent, the vast majority of IPCOM’s patents have been found invalid. See e.g. Nokia press release, April 25, 2012. Available at <http://press.nokia.com/2012/04/25/european-patent-office-revokes-another-ipcom-paten/> (“So far, of 62 IPCOM patents that have come to judgment, none has been found valid as granted.”) See also Nokia Wins Patent Dispute Against IPCOM on cellular-news.com 20 February 2012 Available at <http://www.cellular-news.com/story/53129.php>.

<sup>22</sup> See e.g. FTC Report, To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy, (October 2003). Available at <http://ftc.gov/os/2003/10/innovationrpt.pdf>.

<sup>23</sup> FTC Report, The Evolving IP Marketplace: Aligning Patent Notice and Remedies with Competition, (March 2011). Available at [Fel! Ogiltig hyperlänkreferens.](#)

<sup>24</sup> In *eBay Inc., vs. MercExchange, L.L.C.*, 547 U.S. 388, 391 (2006), the U.S. Supreme Court held that the plaintiff must address the four standard factors for obtaining equitable relief when seeking an injunction, demonstrating: (1) that it has suffered an irreparable injury; (2) that remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction.

### 6.2.2. Injunctions and standard essential patents

The question of whether patentees can seek injunctions based on FRAND-encumbered patents is one of the areas where IP law and competition policy intersect. The right to exclude is the essence of patent law. At the same time, the concern is that (the threat of) an injunction may serve to extract supra-FRAND royalties under SEPs that the patent holder has committed to license to anyone who wishes to implement the standard. The EU Commission is currently investigating whether seeking injunctions under SEPs may constitute an abuse of dominance under Article 102 TFEU (further discussed below).

The FTC recently requested that the International Trade Commission (ITC) consider the impact of patent hold-up and refrain from granting injunctions in conflict with the public interest, for example by considering whether the patent holder has made a reasonable royalty offer.<sup>25</sup> The FTC has also filed amicus briefs in pending court litigation, arguing that FRAND commitments generally militate against an injunction, at least insofar the implementer is a willing licensee.<sup>26</sup> District Court Judge Robart recently denied a request for an injunction for infringement of SEPs on such grounds.<sup>27</sup> Importantly, this decision followed a representation from the defendant to accept a licence on (F)RAND terms and litigation was continuing before the same judge to determine the details of such a licence.<sup>28</sup>

National courts in Europe, in particular in jurisdictions popular for patent litigation, have faced the same issues. German courts have applied the Orange Book<sup>29</sup> standard, under which injunctions are available unless the defendant has made an unconditional offer to license on FRAND terms and behaves like a licensee (e.g. rendering accounts and making escrow payments). The defendant bears the burden of proving that the offered licence is fair and reasonable and that terms offered by the patentee are not.

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<sup>25</sup> See Third Party United States Federal Trade Commission's Statement of Public Interest dated 6 June 2012, in Investigation Inv. No. 337-TA-745, <http://www.ftc.gov/os/2012/06/1206ftcwirelesscom.pdf>.

<sup>26</sup> Brief of Amicus Curiae Federal Trade Commission Supporting Neither Party in appeal of Apple Inc., v. Motorola Inc., Nos. 2012-1548, 2012-1549 Fed Cir. 4 December 2012. (Appeal from Apple Inc. v. Motorola Inc., 2012 WL 2362630, N.D. Ill. June 7 2012) (Posner C.J sitting as District Judge.) Available at <http://www.ftc.gov/os/2012/12/121205apple-motorolaamicusbrief.pdf>. (“More generally, in circumstances where an infringer is unable or unwilling to pay an ongoing royalty, the harm to the patentee presumably cannot be compensated with damages”) See also Prepared Statement of the FTC before the U.S. Senate Committee on the Judiciary Concerning Oversight of the Impact on Competition of Exclusion Orders to Enforce Standard-Essential Patents, (11 July 2012) Available at <http://www.ftc.gov/os/testimony/120711standardpatents.pdf>

<sup>27</sup> Microsoft Corporation v. Motorola, Inc. 2012 WL 5993202 (W.D.Wash. 30 November 2012).

<sup>28</sup> Id at 13.

<sup>29</sup> German Supreme Court, judgment of 6 May 2009, KZR 39/96.

In the Netherlands, the legal standard has evolved over the last few years. Generally, an implementer has no legal right to use patented technology before a licence has been obtained. A party should therefore request a FRAND licence first, and, if not obtained, seek a compulsory licence. Otherwise the patent may be enforced. However, recent case law indicates that each case will be determined on its facts with a view to determine whether negotiations have been conducted in good faith. If the patentee has not negotiated in good faith, an injunction will not be granted, if the licence seeker has not acted in good faith, an injunction will be held to be an appropriate remedy.

Fundamentally, the question of injunctions boils down to a distinction between the use of injunctions to induce standards implementers to conclude FRAND licences and the use of injunctions to achieve undue leverage in negotiations and obtain excessive royalties. A key question involves finding an appropriate standard for determining whether someone is a “willing” licensee or not.<sup>30</sup> This seems to require a case-by-case analysis. Since these distinctions determine the difference between appropriate and potentially anticompetitive injunctions, one hopes for increased and informed interaction between competition and IP law enforcers.

### 6.3. An SSO issue

SSOs may contribute to mitigating the controversies in the cross-roads between standards, IPRs and competition policy. SSO activities are collaborative efforts subject to antitrust rules. Effective IPR policies can provide incentives for the contribution of technology for standardisation as well as safeguards for the availability of standardized technology for implementers. Antitrust authorities on both sides of the Atlantic have recommended SSOs should consider further improvements in their rules to prevent patent hold-up.<sup>31</sup>

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<sup>30</sup> Several other questions are likely to arise, including whether the licence would cover the whole portfolio or just the patents in suit, be world-wide or national in scope, and the extent to which courts should determine the essentiality and validity of the patents when determining what is FRAND.

<sup>31</sup> See e.g. Wayland Fn 6 supra. Antitrust Policy in the Information Age: Protecting Innovation and Competition, Deputy Assistant U.S. A. G. Renata Hesse, Six “Small” Proposals for SSOs Before Lunch, 10 October 2012, Remarks Prepared for ITU-T Roundtable, Geneva Switzerland. Available at <http://www.justice.gov/atr/public/speeches/287855.pdf>; Joaquín Almunia, Vice President of the European Commission, Higher Duty for Competition Enforcers, 15 June 2012, Speech before the International Bar Association Antitrust Conference, Madrid Spain, 15 June 2012, SPEECH/12/453. Available at [http://europa.eu/rapid/press-release\\_SPEECH-12453\\_en.htm](http://europa.eu/rapid/press-release_SPEECH-12453_en.htm).

### 6.3.1. Inclusion of patented technology and licensing provisions

SSOs usually require members to disclose any known patents that may be essential to the implementation of the standard. Rather than requiring FRAND commitments, the SSO could try to avoid incorporating patented technology altogether or demand royalty-free licensing.

It has been suggested that “Standardise on proprietary technology when non-proprietary alternatives are just as good, and you will raise costs for the industry as a whole, and risk lock-in to a particular vendor’s products.”<sup>32</sup> But it may not often be possible or desirable to refuse, as a matter of principle, to include proprietary technology in a given standard, provided any such rights are made generally available on reasonable terms. Frequently, unpatented alternatives may not exist at all or they may be inferior to patented alternatives.

Similarly, accepting patented technology but requiring royalty-free licensing conditions could potentially limit participation in SSOs and discriminate against business models built on proprietary technology and IPR licensing. SSOs should not attempt to obtain unreasonable and unnecessary concessions from their membership that would restrict participation or lead to exclusion diminishing innovation and resulting in inferior standards.<sup>33</sup> The (F)RAND approach is considered to be appropriate where standards benefit from the inclusion of proprietary technologies and there is a concern that royalty-free licensing obligations would limit participation in and contribution of technologies to SSOs, reducing innovation incentives. These considerations differ. In the IT and software sector there is a strong industry preference for royalty-free standards.<sup>34</sup>

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<sup>32</sup> See Neelie Kroes, European Commissioner for Competition Policy, Setting the standards high, Speech before the Harvard Club of Belgium, “De Warande” Brussels, 15 October 2009, SPEECH/09/475. Available at [http://europa.eu/rapid/press-release\\_SPEECH-09-475\\_en.htm?locale=en](http://europa.eu/rapid/press-release_SPEECH-09-475_en.htm?locale=en).

<sup>33</sup> See Maurits Dolmans, Standards for Standards, Paper for American Bar Association, Section Antitrust law, Spring meeting, Washington DC, 26 April 2002, and for the Joint Department of Justice Antitrust Division/Federal Trade Commission hearings on Competition and Intellectual Property Law and Policy in the Knowledge-Based Economy, Washington DC, 22 May 2002, p. 9. Available at [www.ftc.gov/opp/intellect/020522dolmans.pdf](http://www.ftc.gov/opp/intellect/020522dolmans.pdf). See also M Glader Fn 2 supra.

<sup>34</sup> See e.g. Report of the Expert Panel for the Review of the European Standardization System (EXPRESS), Standardization for a competitive and innovative Europe: a vision for 2020, EXP 384 final (February 2010) at 18. Available at [http://ec.europa.eu/enterprise/policies/europeanstandards/files/express/exp\\_384\\_express\\_report\\_final\\_distrib\\_en.pdf](http://ec.europa.eu/enterprise/policies/europeanstandards/files/express/exp_384_express_report_final_distrib_en.pdf); Commission White Paper, “Modernizing ICT Standardisation in the EU—The Way Forward”, COM(2009) 324 final, 10. The World Wide Web Consortium (“W3C”) is one of few SSOs in the industry with a strict royalty-free policy. Other SSOs apply IPR policies that are open for exceptions if they are necessary to develop an attractive standard (OASIS) or they avoid prescribing any licensing terms but normally would not standardise patented technology unless the owner has agrees not to assert the patents (IETF).

History has shown that software-to-software interoperability standards are one of those areas where royalty-free licensing is a key to innovation and dissemination, and may promote, rather than restrict, participation and contribution. This is different from, for example, complex hardware and telecommunications standards where the standardised technology is the result of large private expenditure in R&D and testing.<sup>35</sup>

### 6.3.2. Definition of FRAND and *ex ante* schemes

Although SSOs have typically adopted rules requiring participants to disclose IP that would be essential to proposed standards and in practice make standardisation of such technology conditional on FRAND commitments, the SSOs have not sought to regulate which terms and conditions would be compliant with such FRAND undertakings. SSOs have generally focused on promulgating standards and chosen to stay out of licensing discussions (also for antitrust reasons). It is said that SSOs prefer meetings among engineers than among lawyers. It would be challenging to craft detailed prescriptions for FRAND licensing which moreover must find broad support among various SSO participants with differing incentives.<sup>36</sup>

It seems more likely current pressure on SSOs to place limitations on the right of holders of FRAND-encumbered SEPs to seek injunctions could lead to refinements. In this context, one proposed measure would be for SSOs to include possibilities or requirements for arbitration (or similar) procedures to reduce the costs involved in establishing FRAND royalties.<sup>37</sup>

Other potential measures to mitigate hold-up problems involve ways of clarifying the price of prospective technologies prior to adoption of the standard. EU commission officials have expressed their support for *ex ante* schemes that allow for competition between rival technologies on both quality and price.<sup>38</sup> According to these officials, previously voiced antitrust concerns “should not be used as a smokescreen to hinder the uptake of *ex*

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<sup>35</sup> In 1993 the Commission objected to The European Telecommunications Standards Institute (“ETSI”) implementing a “license-by-default” obligation, whereby patent holders would agree *ex ante*, as a condition for participating in the SSO, that their patents be incorporated unless specifically withheld. The rule was perceived to go too far, even if the aim of it was to deter potential hold-up strategies. See e.g. Gil Ohana, Marc Hansen & Omar Shah, Disclosure and Negotiation of Licensing Terms Prior to Adoption of Industry Standards: Preventing Another Patent Ambush? 24 Eur. Comp. L. Rev. 644 (2003); M Dolmans Fn 33 *supra*.

<sup>36</sup> For example, initiatives by some ETSI members with the aim of providing further clarification or definition to FRAND licensing terms have failed to obtain the requisite support.

<sup>37</sup> VITA’s patent policy includes an arbitration procedure to resolve disputes over members’ compliance with the policy.

<sup>38</sup> Cecilio Madero Villarejo & Nicholas Banasevic, Standards and Market Power, in GCP, the Online Magazine for Global Competition Policy, 16 May 2008.

*ante* type schemes.”<sup>39</sup> The 2003 Technology Transfer Guidelines convey a similar message.<sup>40</sup> In the 2010 Horizontal Guidelines, the Commission took steps in this direction, explaining that, as long as they do not involve a price-fixing scheme, agreements providing for unilateral *ex ante* disclosures of most restrictive licensing terms, will not, in principle, restrict competition within the meaning of Article 101(1) TFEU.<sup>41</sup>

Similarly on the U.S. side, the DOJ in 2006 and 2007 advised two SSOs, IEEE and VITA, that they could preserve competition and avoid unreasonable licensing terms by requiring or permitting patent holders to disclose most restrictive terms.<sup>42</sup>

While it appears that SSOs do not have to fear antitrust condemnation, practical problems in the development of actual *ex ante* licensing models may prove more difficult to overcome. The adoption of such procedures can be difficult due to the nature of the standardisation process. Complex standards may involve very large numbers of patents, develop over a significant period of time during which new features are added (but where selection is confined by previous technology choices) and unknown applications mature into issued patents. In such circumstances, effective *ex ante* measures (whether auctions, bilateral royalty negotiations, or unilateral declarations of licensing terms) may be difficult to make operational. For other standards, the opportunities for *ex ante* pricing may be better. Both U.S. and the EU authorities have been careful to stress that they do not prescribe specific schemes to SSOs. It is up to the SSOs to develop the policies that are most appropriate to their needs.

## 6.4. A competition law issue

Antitrust aspects relating to standards and patents can arise in a variety of ways, broadly, on the one hand, through agreements and transactions

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<sup>39</sup> Id.

<sup>40</sup> Commission Notice, Guidelines on the application of Article 81 of the EC Treaty to technology transfer agreements, OJ 2004 C 101/2, para. 225.

<sup>41</sup> Communication from the Commission, Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements, OJ 2011 C 11/1, paras 274 and 299.

<sup>42</sup> Business Review letter, 30 April 2007, from Thomas O. Barnett, Assistant Attorney Gen., U.S. Dep’t of Justice, to Michael A. Lindsey, Esq. Available at [www.justice.gov/atr/public/busreview/222978.pdf](http://www.justice.gov/atr/public/busreview/222978.pdf); Business Review letter, 30 October 2006, from Thomas O. Barnett, Assistant Attorney Gen., U.S. Dep’t of Justice to Robert A. Skitol, Esq. <http://www.justice.gov/atr/public/busreview/219380.pdf>; See also Deborah Platt, Chairman FTC Recognizing the Procompetitive Potential of Royalty Discussions in Standard Setting, 23 September 2005, p. 2, Remarks prepared for Conference Standardization and the Law: Developing the Golden Mean for Global Trade, Stanford University, California, Available at <http://www.ftc.gov/speeches/majoras/050923stanford.pdf>.

between undertakings and, on the other hand, through unilateral conduct by patent holders.

### *Agreements and transactions*

Leaving aside the appraisal of the SSOs and their activities as such,<sup>43</sup> competition authorities have been involved in various transactions and patent transfers linked to the current patent wars.

The EU Commission and the FTC cleared Google's acquisition of Motorola Mobility in 2012, following thorough analyses of the competitive implications of Google's acquisition of Motorola's patent portfolio (along with its mobile device operations). The EU Commission investigated whether Google would be in a position to impede competition by recourse to injunctions against good faith licensees, in order to raise royalty rates (or impose other onerous terms and conditions) or exclude competitors. Following extensive review the Commission concluded that "Google's rationale for the transaction [was] to create 'patent balance' in the smart mobile device industry."<sup>44</sup> Google's aim to achieve patent peace would be served by successful licensing and settlements, not by raising royalties or seeking exclusion. To this effect, Google had made representations that it would be bound by Motorola's FRAND commitments and sent a letter to SSOs committing to honour Motorola's maximum rate of 2.25%.

Another type of transaction involves patent acquisitions by industry consortia. In 2010, CPTN Holding, a holding company owned by Microsoft, Oracle, Apple and EMC, acquired a large patent portfolio from Novell. In a first phase, CPTN was to acquire the patents and applications. In the second phase, the patents would be allocated and distributed to each of the four owners. Various parts of the open source community voiced concerns that these patents, relating to open source platform Linux. The U.S. Department of Justice and the German Federal Cartel Office found that the transfer of the patents to these consortia members would jeopardize the ability of open source software, such as Linux, to continue to innovate and compete in the development and distribution of server, desktop, and mobile operating systems, middleware, and virtualization products. The transaction was ultimately cleared<sup>45</sup> after the parties, among other things, had agreed that

- Microsoft would sell back all of the patents that it would have otherwise acquired, but continue to receive a licence;

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<sup>43</sup> The 2010 Horizontal Cooperation Guidelines, Fn 41 supra, para. 285. Section 7; see also Commission Decision in Case IV/31.458, X/Open Group, OJ L 35, 6.2.1987, p. 36.

<sup>44</sup> Commission decision, Fn 16 supra.

<sup>45</sup> See U.S. DOJ press release 20 April 2011, CPTN Holdings LLC and Novell Inc. Change Deal in Order to Address Department of Justice's Open Source Concerns. Available at <http://www.justice.gov/opa/pr/2011/April/11-at-491.html>.

- EMC would not acquire patents related to virtualization software;
- All of the patents would be acquired subject to the GNU General Public License (a widely adopted open-source licence) and the Open Invention Network (OIN) License (a significant licence for the Linux System).

The U.S. DOJ recently investigated Rockstar Bidco (a partnership including Apple, Microsoft, Research in Motion, Sony, and Ericsson), and its acquisition of 6,000 patents and patent applications from Nortel at a bankruptcy auction. The Nortel portfolio included a number of patents that Nortel had committed to license on RAND terms for uses associated with certain standards, including wireless standards. The DOJ did not find it likely that the participants would harm rivals either through injunctions or supra-competitive royalties.<sup>46</sup> Interestingly, subsequent to the clearance and after splitting some 2,000 out of the 6,000 acquired Nortel patents, partnership participants set up Rockstar Consortium, a PAE operation tasked to monetise the remaining 4000 patents.<sup>47</sup>

Transfers of patents to PAEs increasingly raise concerns. In *In re N-Data*<sup>48</sup>, a patent holder committed, during the standardisation process for “Fast Ethernet” in IEEE, to license its SEPs for a one-time fee of one thousand dollars. After the standard had been adopted and implemented, the patents were assigned to a PAE. The new owner subsequently demanded royalties significantly higher than the promised rate. The FTC viewed this as an “unfair method of competition” in violation of Section 5 of the FTC Act because it injured competition and consumers by subjecting licensees to increased royalties, decreasing incentives to produce standard-compliant products, and threatening increased prices and reduced supply.<sup>49</sup>

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<sup>46</sup> See U.S. DOJ Press release, 13 February 2012, Statement of the Department of Justice’s Antitrust Division on Its Decision to Close Its Investigations of Google Inc.’s Acquisition of Motorola Mobility Holdings Inc. and the Acquisitions of Certain Patents by Apple Inc., Microsoft Corp. and Research in Motion Ltd., Available at <http://www.justice.gov/opa/pr/2012/February/12-at-210.html>.

<sup>47</sup> See Robert McMillan, How Apple and Microsoft Armed 4,000 Patent Warheads”, 21 May 2012 in Wired Magazine. Available at, <http://www.wired.com/wiredenterprise/2012/05/rockstar/>.

<sup>48</sup> See Draft Complaint, *In re Negotiated Data Solutions LLC*, No. C-4234, F.T.C. (Sep. 23, 2008) (“N-Data”.) Available at <http://www.ftc.gov/os/caselist/0510094/080923ndscomplaint.pdf>.

<sup>49</sup> Id. at points 36-39. According to the FTC, N-Data’s patent hold-up (i) was “inherently ‘coercive’ and ‘oppressive’ with respect to firms that are, as a practical matter, locked into a standard”; and (ii) caused anticompetitive effects both because of raised prices and reduced output and because of impairment to the standard-setting process. See *In re Negotiated Data Solutions LLC*, No. 051 0094, Analysis of Proposed Consent Order to Aid Public Comment at 4-6. Available at [http://www.ftc.gov/os/caselist/0510094/080122\\_analysis.pdf](http://www.ftc.gov/os/caselist/0510094/080122_analysis.pdf). The Commission also deemed that N-Data’s conduct violated Section 5 under the statute’s consumer protection (unfair or deceptive act or practice) prong. See id. at 6-9.

A similar example is found in the acquisition in 2007 by IPCOM of a patent portfolio from Bosch, including patents claimed essential to the GSM and UMTS standards. IPCOM has since sought to assert the patents against operating companies, according to court documents demanding royalties in the range of €12 billion from Nokia.<sup>50</sup> Following a complaint from Nokia to the EU Commission, IPCOM declared that it would honour the FRAND commitment given Bosch for the relevant patents. In the announcement, the Commission explained that “unrestricted access to the underlying proprietary technology on FRAND terms for all third parties safeguards the pro-competitive economic effects of standard setting. Such effects could be eliminated if, as a result of a transfer of patents essential to a standard, the FRAND commitment would no longer apply.”<sup>51</sup>

Recently, Google filed a complaint with the EU Commission, following Nokia’s and Microsoft’s transfer of approximately 2,000 Nokia patents and pending applications to PAE firm Mosaid. The portfolio includes some 1200 SEPs for GSM, UMTS and LTE.<sup>52</sup> According to Mosaid, “this is one of the strongest standards-essential wireless portfolios available on the market” which Mosaid will monetize, retain one-third of the gross royalties and distribute two-thirds of the collected royalties to Nokia and Microsoft.<sup>53</sup> According to Google, the Mosaid agreement fosters royalty stacking by atomizing Nokia’s SEP portfolio and enables Nokia to evade its prior commitment to licence its SEP portfolio for no more than 2% by outsourcing patents to an agent with a greater incentive and ability to assert those patents aggressively, while Nokia continues to separately license its retained portfolio.<sup>54</sup>

#### 6.4.1. Unilateral conduct by SEP holders

Several recent antitrust cases have involved individual patent holders’ conduct with respect to SEPs. There has been an evolution of cases on both sides of the Atlantic, including patent ambush in Rambus, royalty ambush in

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<sup>50</sup> Nokia GmbH v. IPCOM GmbH & Co. KG, 2009 EWCH 3482 (Pat) (CA 2010) (Lord Jacob giving first judgment.) Available at <http://www.bailii.org/ew/cases/EWCA/Civ/2011/6.html>.

<sup>51</sup> EU Press release, MEMO/09/549, 10 December 2009, Commission welcomes IPCOM’s public FRAND declaration. Available at [http://europa.eu/rapid/press-release\\_MEMO-09-549\\_en.htm](http://europa.eu/rapid/press-release_MEMO-09-549_en.htm); See also The 2010 Horizontal Cooperation Guidelines, Fn 41 supra, para. 285.

<sup>52</sup> Mosad Technologies Inc., Press release, 1 September 2011, MOSAID Acquires 1,200 Nokia Standards-Essential Wireless Patents and 800 Wireless Implementation Patents. Available at <http://www.mosaid.com/corporate/news-events/releases-2011/110901.php>.

<sup>53</sup> Id.

<sup>54</sup> See Google, Inc. letter to Senators Patrick J. Leahy and Chuck Grassley, 10 July, 2012 attached to Written Statement of The American Antitrust Institute Before the Senate Judiciary Committee Hearing on Oversight of the Impact on Competition of Exclusion Orders to Enforce Standard-Essential Patents, 11 July 2012, p. 6. Available at <http://www.judiciary.senate.gov/resources/transcripts/upload/07112RecordSubmission-Leahy.pdf>.

Qualcomm, and more recently, investigations against Samsung and Motorola regarding their use of injunctions.

In 2007, the Commission issued a statement of objections against Rambus.<sup>55</sup> The Commission believed that Rambus had infringed Article 102 TFEU by claiming unreasonable royalties for the use of certain patents for “Dynamic Random Access Memory” (“DRAM”) chips. According to the Commission, Rambus engaged in patent ambush, intentional deceptive conduct in the context of the standard-setting process by not disclosing the existence of patents and patent applications, which it later claimed were relevant to the adopted standard. The Commission considered that, without the ambush, Rambus would not have been able to charge the royalty rates it did. Either the SSO would have excluded the technology in question had it known about Rambus patent claims, or it would at least have required Rambus to make a commitment to license any essential patents on FRAND terms. Rambus abused its dominant market position created by having its technology included in the standard “by subsequently claiming unreasonable royalties for the use of those relevant patents.”<sup>56</sup> Rambus ultimately committed to cap its royalty rates for products compliant with the JEDEC standards for five years. As part of the overall remedy package, Rambus agreed to charge zero royalties for chip standards that were adopted when Rambus was a JEDEC member, in combination with a maximum royalty rate of 1.5 per cent for the later generations of JEDEC DRAM standards.<sup>57</sup> The Commission decided that these commitments were adequate and adopted a decision that rendered them legally binding.<sup>58</sup>

In 2007, the Commission also announced that it had opened formal antitrust proceedings against Qualcomm, following complaints lodged by mobile phone and chipsets manufacturers. The alleged infringement under Article 102 TFEU concerned the terms under which Qualcomm licensed its patents essential to the WCDMA (or UMTS) standard for 3G mobile communications. The Commission’s investigation focused on Qualcomm’s dominance and whether the imposed licensing terms and royalties were a breach of its FRAND commitment and exploitative.<sup>59</sup> The complaints were

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<sup>55</sup> See Commission Press Release 23 August 2007, MEMO/07/330, Antitrust: Commission confirms sending a Statement of Objections to Rambus. Available at [http://europa.eu/rapid/press-release\\_MEMO-07-330\\_en.htm](http://europa.eu/rapid/press-release_MEMO-07-330_en.htm).

<sup>56</sup> Id.

<sup>57</sup> See Commission Press Release 9 December 2009, IP/09/1897, Antitrust: Commission accepts commitments from Rambus lowering memory chip royalty rates. Available at [http://europa.eu/rapid/press-release\\_IP-09-1897\\_en.htm](http://europa.eu/rapid/press-release_IP-09-1897_en.htm).

<sup>58</sup> Similarly, the FTC found that Rambus’s conduct violated Section 2 of the Sherman Act and issued an order capping Rambus’s royalty rates. See Final Order, In re Rambus Inc., No. 9302, 2007 WL 431522 (2 February 2007). Rambus was successful on appeal where the D.C. Circuit set aside the FTC’s Order in Rambus Inc. v. F.T.C., 522 F.3d 456 (D.C. Cir. 2008), a decision that has been criticized and appears to be inconsistent with the Third Circuit’s opinion in Broadcom Corp. v. Qualcomm Inc., 501 F.3d 297 (3d Cir. 2007).

<sup>59</sup> See Commission Press Release 1 October 2007 MEMO/07/389 Antitrust: Commission initiates formal proceedings against Qualcomm, Available at <http://europa.eu/rapid/press->

based on the understanding that “the economic principle underlying FRAND commitments is that essential patent holders should not be able to exploit the extra power they have gained as a result of having technology based on their patent incorporated in the standard.”<sup>60</sup> In 2008, Nokia and Qualcomm announced that the companies had agreed to settle all litigation between them, including the withdrawal by Nokia of its complaint to the Commission, entering into a 15-year licensing agreement. In 2009, Broadcom and Qualcomm announced a similar settlement. In November 2009, the Commission closed the formal proceedings against Qualcomm, noting that the “case has raised important issues about the pricing of technology included in an industry standard.”<sup>61</sup>

In the wake of these cases there has been a substantial development of economic and legal research regarding the meaning FRAND and its antitrust implications. There is a growing agreement that FRAND means that SEP owners should not charge royalties disproportionate to what they could have charged under the competitive conditions that applied *ex ante*, prior to the adoption of the standard. In the words of Swanson and Baumol:

If the primary goal of obtaining RAND licensing commitments is to prevent IP holders from setting royalties that exercise market power created by standardisation, then a concept of a ‘reasonable’ royalty for purposes of RAND licensing must be defined and implemented by reference to *ex ante* competition, i.e., competition in advance of standard selection.<sup>62</sup>

The recognition of the *ex ante* approach has spurred various developments and refinements. In the 2010 Horizontal Guidelines, the Commission states that “it may be possible to compare the licensing fees charged by the undertaking in question for the relevant patents in a competitive environment before the industry has been locked into the standard (*ex ante*) with those charged after the industry has been locked in (*ex post*).”<sup>63</sup> In the same way higher prices charged or other onerous terms imposed for the licensing of a technology after, as compared to before, a standard was set or lock-in occurred could indicate an abuse, evidence of consistent pricing can show there is no exercise of hold-up. Similarly, where a technology is chosen from existing alternative technologies and the licensing terms applied by the IP holder are known to the SSO participants at the time of standardisation, this may evidence a “revealed preference.”<sup>64</sup>

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[release\\_MEMO-07-389\\_en.htm](#).

<sup>60</sup> Id.

<sup>61</sup> Commission Press Release 24 November 2009, MEMO/09/516, Antitrust: Commission closes formal proceedings against Qualcomm. Available at [http://europa.eu/rapid/press-release\\_MEMO-09-516\\_en.htm](http://europa.eu/rapid/press-release_MEMO-09-516_en.htm).

<sup>62</sup> Daniel G. Swanson, William J. Baumol, Reasonable and Nondiscriminatory (RAND) Royalties, Standards Selection, and Control of Market Power, 73 Antitrust L. J. 1, 10 (2005.)

<sup>63</sup> Horizontal Cooperation Guidelines, Fn 41 *supra*, para. 289.

<sup>64</sup> Maurits Dolmans & Daniel Ilan, European Antitrust and Patent Acquisitions: Trolls in

Finally, the most recent development is the initiation of investigations into the use of injunctions under patents that are encumbered by FRAND commitments. Following complaints by Apple and Microsoft, the EU Commission is investigating whether Samsung and Motorola has failed to honour their FRAND commitments by seeking injunctive relief in court and whether behaviour amounts to an abuse dominance.<sup>65</sup> These questions are, as previously discussed, complex and fact specific. The question is whether antitrust enforcement in specific cases which, unless settled, take years to conclude, is the most efficient way of providing guidance into these novel issues. Given that injunctions under SEPs are a rare phenomenon and in any event are granted by national courts, it seems that guidance directed to industry and national courts would be appropriate, by publicly explaining the authority's general position or by filing amicus curiae submissions in specific cases, similar to what US authorities have done.

## 6.5. Closing remarks

It has been said that “Our innovation economy balances on these three pillars - patent rights, competition and standard setting – so it is essential that each is strong.”<sup>66</sup> Ensuring each of these pillars are strong, first of all means that any fundamental weaknesses must be addressed pillar by pillar. While antitrust policy in its modern shape, and founded on sound economics, may be “well-equipped” to deal with various agreements and conduct involving patents,<sup>67</sup> it is not a panacea.

Furthermore, continued development and refinement of the different parts of this supportive construction must be done with a view of promoting the innovative economy it collectively supports. This requires appropriate understanding of the complementarity between the different pillars. There needs to be not only recognition of incentives for investment and innovation

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the Patent Thickets, 8:2 Competition Law International 7, 10 (August 2012); See also Commission Press Release 9 December 2009, MEMO/09/544, Antitrust: Commission accepts commitments from Rambus lowering memory chip royalty rates - frequently asked questions Available at [http://europa.eu/rapid/press-release\\_MEMO-09-544\\_en.htm](http://europa.eu/rapid/press-release_MEMO-09-544_en.htm). “How do you assess what a reasonable royalty is in general? A. Obviously, it depends on the specifics of every case. The ex ante price that was being charged for a technology before a standard was set could be good benchmark.”

<sup>65</sup> See e.g. Commission Press Release, 31 January 2012, IP/12/89, Antitrust: Commission opens proceedings against Samsung. Available at [http://europa.eu/rapid/press-release\\_IP-12-89\\_en.htm](http://europa.eu/rapid/press-release_IP-12-89_en.htm); Commission Press Release 3 April 2012, IP/12/345, Antitrust: Commission opens proceedings against Motorola. Available at [http://europa.eu/rapid/press-release\\_IP-12-345\\_en.htm](http://europa.eu/rapid/press-release_IP-12-345_en.htm).

<sup>66</sup> Wayland, Fn 6 supra.

<sup>67</sup> See video interview by Robert McLeod of Competition Commissioner Joaquin Almunia on Standard Essential Patents, 25 July 2012 in online journal, *Vi eu ws*, the EU Policy Broadcaster. Available at <http://viewws.net/financial-competition/competition-commissioner-almunia-on-standard-essential-patents/>.

in competition law, there needs also to be recognition of efficiency and trade in patent law. To achieve these ends, continued and deepened interdisciplinary interaction in the legal and economic communities is called for. In this respect, the 2012 Nordic Academic Competition Law Conference set an example.