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The IEEE-SA patent policy update under the lens of EU competition law

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In 2015, the Institute of Electrical and Electronics Engineers (IEEE) Standardization Association made some controversial changes to its patent policy. The changes include a recommended method of calculation of FRAND royalty rates, and a request to members holding a standard-essential patent to forego their right to seek an injunction except under limited circumstances. The updated policy was adopted by the IEEE Board of Directors after obtaining a favourable Business Review Letter by the US Department of Justice, which found any potential competitive harm from the policy to be outweighed by potential pro-competitive benefits. In this paper, we examine whether the same favourable conclusion would be reached under EU competition analysis. After discussing the role of patent policies of standard-setting organizations and the rules and principles applicable to the IEEE's activities, the paper concludes that standardization agreements based on the updated policy may constitute a violation of article 101 TFEU.

Keywords: standard-setting organizations; standard-essential patents; licensing policies of SSOs; EC guidelines on horizontal cooperation; horizontal agreements

1. Introduction

In a world of complex and multifaceted technological development, a certain degree of industry coordination is vital for economic progress. The ever-expanding role of information and communication technology (ICT) in our economy, in particular, is such that an increasing number of products and services build upon

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the technical specifications developed by pre-existing technology. This type of incremental innovation is stimulated by the operation of standard-setting organizations (SSOs), which serve as a platform for coordinated development of interoperability standards.¹ At the same time, SSOs set up private regimes with far-reaching market implications, raising new challenges for antitrust enforcement.²

The extensive reliance on interoperability standards in this complex technological environment bears important consequences for the holders of any patent that is “essential”³ to a relevant standard (“standard-essential patent” [“SEP”]): SEP holders are entitled to demand royalties to any so called “standard implementer” each and every time that standard is practiced. Effectively, SSOs confer SEP holders a position of monopoly in technology implementing the relevant standard. To mitigate concerns associated with this monopoly, however, SSOs adopt specific rules that are aimed to prevent SEP holders from abusing such privileged positions, for example by extracting excessive royalties from implementers who have made specific investments relying on the standard (a situation that has become known as “patent holdup”).⁴ These rules, defining the procedures that must be followed in relation to identification and licensing of SEPs, constitute a fundamental part of an SSO’s intellectual property rights (IPR) policy, and

¹Standards are defined as “voluntary technical specifications for products, production processes, or services”. See Regulation (EU) No 1025/2012 of 25 October 2012 on European standardization [2012] OJ L 316/12, Rec (1).

²For early literature providing a comprehensive overview of these challenges, see James J Anton and Dennis A Yao, ‘Standard Setting Consortia, Antitrust, and High-Technology Industries’ (1995) 64 (1) *Antitrust Law Journal* 247; Sean P. Gates, ‘Standards, Innovation, and Antitrust: Integrating Innovation Concerns into the Analysis of Collaborative Standard Setting’ (1998) 47 *Emory Law Journal* 584; Mark A Lemley, ‘Intellectual Property Rights and Standard-Setting Organizations’ (2002) 90 (6) *California Law Review* 1889; Carl Shapiro, ‘Setting Compatibility Standards: Cooperation or Collusion?’ in Rochelle Dreyfuss, Diane L Zimmernann and Harry First (eds.) *Expanding the Boundaries of Intellectual Property: Innovation Policy for the Knowledge Society* (Oxford University Press, 2001), 82; David J. Teece and Edward F. Sherry, ‘Standards Setting and Antitrust’ (2003) 87 *Minnesota Law Review* 1913.

³The concept of “essentiality” depends on the SSO in question, and may refer not only to technical, but also commercial essentiality – ie that non-infringing alternatives may exist but are too expensive or cumbersome to be worth bringing to the market. According to the survey conducted for the joint study of the National Academy of Science and the United States Patent and Trademark Office, two SSOs in the ICT sector (IEEE and VITA) include commercial essentiality within their IPR policies regarding disclosure and licensing commitments, and one SSO (ETSI) explicitly rules it out. See Keith Maskus and Stephen A. Merrill, *Patent Challenges for Standard-Setting in the Global Economy: Lessons from Information and Communication Technology* (National Academy Press 2013) 38.

⁴See for example IEEE’s lawyer Michael Lindsay’s characterization of the entire patent policy as “intended to prevent the risk of ‘patent holdup’ (as well as ‘patent stacking’)”. See Michael A. Lindsay, Letter to Assistant Attorney General William J. Baer, 7 November 2014. Not currently available on the IEEE’s website, but on file with the authors.

certainly a crucial element of consideration for both patent owners and potential implementers wishing to join an SSO working group.⁵

Unsurprisingly, given the importance of maintaining a balanced relationship between these two categories, SSOs' IPR policies have been a controversial subject in academic studies on the governance of standard-setting.⁶ On the one hand, insufficient guarantees against unreasonable requests by SEP holders may prevent the emergence of innovative technologies utilizing the standard for fear of technology users to be "trapped" into onerous licensing schemes. On the other, excessive interference with the exclusive rights of SEP holders may lessen their incentives to engage in standard-setting, or to invest in those technologies in the first place. In a nutshell, patent policies of SSOs strive to maximize standards adoption by balancing the freedom of patent owners to collect royalties with the need to provide safeguards against possible exploitation of the standardization process.

By far, the most common policy adopted by SSOs in relation to SEPs is one whereby SEP holders are required to disclose any patents they hold in relation to the proposed standard, and requested to commit to license those patents under fair, reasonable and non-discriminatory (FRAND)⁷ terms. In principle, this is a perfect compromise, as it ensures a reasonable return for SEP holders while preventing them from engaging in opportunistic behaviour.⁸ However, the notion of FRAND remains indeterminate, and the process of uncovering its exact meaning in a particular negotiation frequently falls back into litigation.⁹

⁵Benjamin Chiao, Josh Lerner and Jean Tirole, 'The Rules of Standard Setting Organizations: an Empirical Analysis' (2007) 38(4) *Rand Journal of Economics* 905, 907; Joanna Tsai, and Joshua Wright, 'Standard Setting, Intellectual Property Rights, and the Role of Antitrust in Regulating Incomplete Contracts' (2015) 80 (1) *Antitrust Law Journal*; Rudi Bekkers and Andrew Updegrove, 'A Study of IPR Policies and Practices of a Representative Group of Standard Setting Organizations Worldwide', Presented to National Academies of Science Symposium on Management of IP in Standards-Setting Processes, Session 4 (3 October 2012) <http://sites.nationalacademies.org/xpedito/groups/pgasite/documents/webpage/pga_072197.pdf> accessed 8 August 2016.

⁶Eg Lemley (n 2); Patrick D Curran 'Standard-Setting Organizations: Patents, Price Fixing, and Per Se Legality' (2003) 70(3) *The University of Chicago Law Review* 983; Kraig A Jakobsen, 'Revisiting Standard-Setting Organizations' Patent Policies' (2004) 3(1) *Northwestern Journal of Technology and Intellectual Property* 43.

⁷FRAND is used here as shorthand of the two different nomenclature used in United States (RAND) and Europe (FRAND) to refer to the same concept. For purposes of this article, the two terms are interchangeable.

⁸Richard A. Epstein, F. Scott Kieff and Daniel F. Spulber, 'The FTC, IP, and SSOs: Government Hold-Up Replacing Private Coordination' (2012) 8 *Journal of Competition Law and Economics* 1.

⁹It should be mentioned that several factors might concur in driving patent litigation (including for example the quality and ownership of a patent), such that the relationship between SEPs and patent litigation is not necessarily binary. For example, a study by Kirti Gupta and Mark Snyder focusing on US smartphone litigation between 2001 and 2013 shows that quality is a more important determinant of patent litigation than the relation

To minimize uncertainty and maximize the adoption and use of their standards, some SSOs have throughout the years altered their internal rules (and in particular their Patent Policy) addressing concerns expressed by their members, or more generally by antitrust authorities, about the enforcement of SEPs. One of such recent changes is the Policy Update of the Institute of Electrical and Electronics Engineers (“IEEE”) Standardization Association (altogether, “IEEE-SA”).¹⁰ This Policy Update was meant to address the challenges arising from the vagueness of FRAND commitments,¹¹ facilitating negotiations between technology owners and implementers. However, despite the favourable view expressed by the US Department of Justice (“DoJ”) in a Business Review Letter,¹² the revised Policy has been subject to much critique, both for its substantive amendments and the controversial process that led to its revision.¹³

of the patent to a standard. Nevertheless, the data of that research (obtained from the case pleadings) indicates that about 1/3 of the patents asserted in litigated cases relates to SEPs, with another third being non-SEP and the remaining third not being identifiable as any of the two. See Kirti Gupta and Mark Snyder, ‘Smart Phone Litigation and Standard Essential Patents’ (May 2014) Hoover IP² Working Paper Series No 14006 <http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2492331> accessed 8 August 2016, 10.

¹⁰The IEEE IPR Policy is codified in Article 6.2 of the IEEE Standards Association’s (IEEE-SA) Standards Board Bylaws (December 2015), <http://standards.ieee.org/develop/policies/bylaws/sb_bylaws.pdf> accessed 5 August 2016.

¹¹See the IEEE Request for Business Review letter (September 2014), retrieved from <<https://www.justice.gov/sites/default/files/atr/legacy/2015/02/17/311483.pdf>>, 11–12. Clarification of the meaning of FRAND had also been encouraged by the International Telecommunication Union, regulators in the EU and US and retail companies alleging to have been involved in disputes for disproportionate royalty requests in relation to the use of a standard. See Konstantinos Karachalios, ‘Fundamental Uncertainty at the Intersection between Patents and Standards’ (November/December 2015) *The Patent Lawyer*, 33.

¹²Business Review Letter to the Institute of Electrical and Electronics Engineers (2 February 2015) <<http://www.justice.gov/atr/public/busreview/311470.htm>>. Business Review Requests are requests submitted to the US Department of Justice by any person concerned about the legality under US antitrust law of a proposed business conduct. A request results in a (non-binding) statement (the Business Review Letter) of the Department of Justice’s current enforcement intentions with respect to that conduct pursuant to the Department’s Business Review Procedure. See 28 C.F.R. Section 50.6.

¹³See eg Gregory J Sidak, ‘The Antitrust Division’s Devaluation of Standard-Essential Patents’, 104 *Georgetown Law Journal Online* 48 (2015); Nicolas Petit, ‘The IEEE-SA Revised Patent Policy and Its Definition of ‘Reasonable’ Rates: A Transatlantic Antitrust Divide?’ (forthcoming, 2016) *Fordham Intellectual Property, Media & Entertainment Law Journal*, Vol. XXVII <<http://ssrn.com/abstract=2742492>> accessed 8 August 2016; David Teece, ‘Are the IEEE Proposed Changes to IPR Policy Innovation Friendly?’ (2015) Tusher Center for the Management of Intellectual Capital Working Paper No 2 <<http://innovation-archives.berkeley.edu/businessinnovation/documents/Teece-Paper-IEEE-Changes-to-IPR-February-2015.pdf>> accessed 10 August 2016; Roy Hoffinger, ‘The 2015 DOJ IEEE Business Review Letter: The Triumph of Industrial Policy Preferences Over Law and Evidence’ (March 2015) 2 *CPI Antitrust Chronicle*; Stuart M. Chemtob, ‘Carte Blanche for SSOs? The Antitrust Division’s Business Review Letter on the IEEE’s Patent Policy Update’ (March 2015) 2 *CPI Antitrust Chronicle*; Ron Katznelson,

This paper reviews both the substance and process of the Policy Update, and seeks to examine how it squares with the EU competition law framework. Section 2 discusses the function of SSOs' IPR Policies and the controversies they have generated within EU competition law. Section 3 then introduces the reader to the governance and structure of the IEEE, with particular focus on the IEEE-SA. Section 4 discusses the specific modifications of the Patent Policy brought by the Policy Update and the process that led to its adoption. Finally, Section 5 discusses the possible application of EU competition law to the standardization agreements based on the application of the Policy; and Section 6 draws some conclusions.

2. The challenge of SSOs' IPR policies: functions and scrutiny

2.1. The role of IPR policies in SSOs

Disputes over the scope and purpose of the rules of engagement for members of an association are far from uncommon in antitrust law.¹⁴ But disputes concerning the IPR policy of SSOs are somewhat different. Despite having as *raison d'être* the joint pursuit of a common goal, SSOs differ in nature and purpose from professional or trade associations. In those associations, members typically share in the burdens and benefits generated by the common rules: they all form part of one broad and relatively uniform category, whose interest are consistently pursued in the activities of the association. In SSOs involving patented technology,

'Perilous Deviations from FRAND Harmony – Operational Pitfalls of the 2015 IEEE Patent Policy', Proceedings of the IEEE SIIT 2015, 9th International Conference on Standardization and Innovation in Information Technology, Sunnyvale, October 2015, 2; Don Clark, 'Patent Holders Fear Weaker Tech Role: Engineering Group's Policy Revisions Could Cut License Fees' *The Wall Street Journal* (New York, 8 February 2015); Adam Missoff, 'Reality Check: Weakening wireless technology patents hurts everyone' *RCR WirelessNews* (January 28, 2015) <<http://www.rcrwireless.com/20150128/network-infrastructure/wi-fi/reality-check-weakening-wireless-technology-patents-hurts-everyone-tag10>> accessed 10 August 2016; Brian Pomper, 'DOJ should not approve IEEE patent policy weakening WiFi patents', *IPWatchdog* (February 2, 2015) <<http://www.ipwatchdog.com/2015/02/02/doj-ieee-policy-wifi-patents/id=54419/>> accessed 10 August 2016; Gregory J Sidak, 'Testing for Bias to Suppress Royalties for Standard-Essential Patents' 1 *The Criterion Journal on Innovation* 301 (2016).

¹⁴Within the European Union, see eg *EPI code of conduct* (Case IV/36.147), Commission Decision 1999/267/EEC [1999] O.J. L106/14; Case T-144/99 *Institute of Professional Representatives* [2001] ECR. II-1087; Case C-309/99 *Wouters* [2002] ECR. I-1577; *Belgian Architects* (Case COMP/A.38549) Commission Decision 2005/8 [2004] O.J. L4/10; Case C-439/09, *Pierre Fabre Dermo-Cosmetique* [2011] I-09419; Case T-193/02, *Laurent Piau* [2005] ECR II-00209. See also Commission Report on Competition in the Professional Services, COM(2004)83 final of 9 February 2004 <<http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52004DC0083>> accessed 8 August 2016; Edith Loozen, 'Professional ethics and restraints of competition' (2006) 31 *European Law Review*, 28-47.

the common goal (definition and adoption of standards) operates at a more abstract level, while tensions arise with regard to its implications for the diverging interests of SSO participants. In particular, the prospect of selection of a particular technology for inclusion in a standard triggers a division into two categories – SEP holders and technology users – striving for the protection of their interests within the SSO. *Before* selection, the main aim for companies holding relevant patents will be to ensure that the SSO defines a framework enabling enforcement of such patents; while the goal for technology users will be to secure access to those patents, which in turn facilitates adoption of the standard. The same conflict materializes concretely in licensing negotiations taking place *after* selection: technology owners holding an SEP will tend to demand implementers royalties corresponding to the market value of that patent; while technology users will seek to limit the extent to which such value reflects the market boost received as a result of the SEP status.¹⁵

This tension is inherent in SSOs as they constitute simultaneously an association of sellers *and* buyers of technology which, often protected in the form of intellectual property, ends up being part of a standard. Each SSO faces the challenge of catering both to the interests of companies whose business model is centred around licensing their own technology for others to build upon, and those of companies who do not have relevant patents, and whose business model is predominantly about making incremental changes to the existing paradigm.¹⁶ A patent policy thus serves a two-folded function: on the one hand, attracting technology owners to participate in standardization by ensuring a fair return on investment for SEP holders, and maintaining their obligations reasonable and proportionate (“incentivizing function”); on the other hand, defining sufficient safeguards to limit the ability of SEP holders to exploit their privileged position (“prophylactic function”).¹⁷ As illustrated below through the record of scrutiny

¹⁵This conflict between negotiating parties goes beyond SSO members, as any firm making use of the standard finds itself in the position of technology implementer. SSO rules therefore aim to cast a broader net, which extends FRAND entitlement to any third parties implementing the standard, precisely to constrain the ability of SEP holders to abuse the market power that is bestowed upon them as a result of the standardization process.

¹⁶Technically there is also a third type of companies, those that own relevant technology *and* are vertically integrated into the manufacturing and selling of standards-compliant products. Although these companies have mixed incentives in the standard-setting process, when it comes to licensing they can be subsumed under the two existing categories: at any time, they act either as seller or as buyer for a particular patented technology included in a standard.

¹⁷It is worth noting that these prophylactic rules are independent from, and possibly unrelated to, the antitrust liability of SEP holders. SSOs rules limiting patentees behavior may thus go beyond the requirements of antitrust laws, effectively imposing “antitrust plus” obligations on patent holders as a matter of IP policy. An obvious example is the rule prescribing that SEP holders will be requested to submit a commitment to license their SEPs on FRAND terms, regardless of the existence of a dominant position in the relevant antitrust market.

of SSOs' patent policies under EU competition law, the pursuit of the prophylactic function risks shifting bargaining power from technology owners to technology users, raising concerns about the latter's exploitation of SSOs as a vehicle to reach anticompetitive outcomes.

2.2. EU competition law v IPR policies of SSOs: lessons from the ETSI experience

The first manifestation of competitive concern with an SSO's IPR policy in EU arose in the context of the proposed IPR Policy and Undertaking (hereinafter "Undertaking") of the European Telecommunications Standardisation Institute (ETSI), approved by its General Assembly in March 1993.¹⁸ The proposed Undertaking required members to license any essential IPR to other ETSI members on FRAND terms, with the exception of those IPRs for which such licences were withheld within 180 days after the Technical Assembly put the relevant standard in the work programme.¹⁹ This framework, which implied also the disclosure of a maximum royalty rate for licensed IPRs, had been preliminarily adopted by ETSI pending a request to the European Commission for exemption from the application of article 86 (1) of the Treaty (currently 101 (1) TFEU) pursuant to article 86 (3) (currently 101 (3)).

The proposal generated widespread criticism and multiple threats of withdrawal from ETSI, particularly from important IPR owners.²⁰ Ultimately, the process grounded to a halt when, in a letter to ETSI and the complainant CBEMA (the Computer and Business Equipment Manufacturers Association), the Commission expressed its adversity to the grant of an exemption for the "licensing-by-default" system envisaged in the Undertaking.²¹ In particular, the Commission took issue with the lack of precise information over the technological content of standards before the public enquiry stage, which would make it technically unfeasible for IPR owners to identify and withhold IPRs.²² Without awaiting the final

¹⁸ETSI/GA15 TD 25.

¹⁹See Rudi Bekker and Isabelle Liottard, 'European Standards for Mobile Communications: The Tense Relationship Between Standards and Intellectual Property Rights' (1999) 21 *European Intellectual Property Review* 110.

²⁰For a more comprehensive description, see Roger G. Brooks and Damien Geradin, 'Taking Contracts Seriously: The Meaning of the Voluntary commitment to license essential patents on 'Fair and Reasonable' terms', in Steven Anderman and Ariel Ezrachi (eds.) *Intellectual Property and Competition Law: new frontiers* (Oxford Univ. Press 2011) 389, 398–99; Eric J. Iversen, 'Standardization and Intellectual Property Rights: ETSI's controversial search for new IPR-procedures', in Kai Jakobs and Robin Williams (eds) *Standardisation and Innovation in Information Technology*. Proc 1st Int. Conf. on Standardisation and Innovation in Information Technology, SIIT '99, Aachen, IEEE, ISBN 0-7803-9935-8, 1999.

²¹See Maurits Dolmans, 'Standards for Standards' (2002) 26 (1) *Fordham International Law Journal*, 163, 181.

²²*ibid.*

outcome of the exemption procedure, ETSI decided to abandon the Undertaking²³ and adopted a revised IPR policy, approved by its General Assembly in November 1994. The fundamental modification of that policy was that members would be required to disclose in good faith the existence of any essential IPRs, including any potential future IPRs and IPRs held by third parties.²⁴ Disclosure would then trigger a request by the Director of ETSI to the SEP owner in order to license that IP on FRAND terms. In case of denial of such request, and where no alternative was available for the particular standard, ETSI director would request re-consideration of the denial, and should that be unsuccessful, pass the patent owner's explanation on to the European Commission to see what further action might be appropriate.²⁵

Following the European Commission's prompt, ETSI had thus revised its IPR policy restoring the freedom of members to determine whether and how they would license SEPs. Since the interference with patent holders' freedom to license and incentive to develop new technologies was a pivotal consideration in the Commission's objection to the Undertaking,²⁶ the approval of the revised policy by the Commission came as no surprise.²⁷ Crucially, the new mechanism demonstrated being more proportionate to address the potential issue of patent holdup, by limiting ETSI members' burden of disclosure to SEPs of which they have good faith awareness, whilst also expanding the reach of the enquiry to SEPs held by third parties.

A few years later, in the context of the *Sun* antitrust investigation,²⁸ ETSI's IPR policy ended up again being subject to the European Commission's scrutiny. The European Commission was concerned that Sun had erected an artificial barrier to entry in the market for Global System for Mobile Communications (GSM) smart cards as a result of: (i) the late disclosure and identification of claimed essential IPR in the standard; and (ii) the apparent non-essentiality of the claimed essential IPR.²⁹ Over the course of the investigation (lasting from 2000 to 2005), the Commission specifically requested ETSI to inform standard users that the claimed essentiality of Sun's IPRs concerning standard GSM 03.19 (TS 101

²³This decision was taken with a vote of the General Assembly on 22 July 1994. See ETSI/GA20 (94) 20; ETSI/GA20 (94)22Rev 1.

²⁴These SEPs include those which are *or are likely to become* essential in respect of the work of the Technical Body. See ETSI Rules of Procedure, Annex 6: IPR Policy, section 4; and ETSI Guide on IPRs, 19 September 2013, sec 2.3.3.

²⁵This is still the case in the current iteration of ETSI's IPR policy: see ETSI Rules of Procedure, Annex 6: ETSI Intellectual Property Rights Policy (20 March 2013), sec 6.1 and 14.

²⁶Dolmans (n 21) 181.

²⁷Notice pursuant to Article 19 (3) of Council Regulation No 17 (') concerning case No IV/35.006 – ETSI interim IPR policy. OJ No C 76/5 of 28.3.95.

²⁸*Sun/ETSI* (DG IV case 37926) with regards to the ETSI GSM 03.19 standard.

²⁹Written Question E-0553/03 by Joan Vallvé (ELDR) to the Commission. Breach of EC's competition rules. OJ C 51E, 26.2.2004, p 32.

476) was being questioned.³⁰ Responding to a written enquiry, Commissioner for Competition Policy Mario Monti expressed the Commission's desire that SSOs develop internal rules adequate to prevent the creation of situations of artificial barriers to entry through misleading declarations of IPRs in the standard-setting process (so called "patent ambush"). Commissioner Monti also commented on the need for a revised IPR policy of ETSI in this regard, which subsequently became the object of a separate investigation. Eventually, ETSI's 46th General Assembly approved in November 2005 a series of changes that strengthened disclosure obligations,³¹ in particular revising the language of the IPR Policy to reflect a general obligation to undertake a "reasonable endeavour" in identifying and declaring essential IPRs, not only in cases of specific "awareness" during participation in the development of a standard or technical specification.³² Measures taken at the General Assembly included the clarifications in ETSI's Guide to IPRs that members with IPR portfolio should adopt procedures to ensure that its participants are aware of any SEPs in the portfolio,³³ and that SEP holders are allowed to disclose the most restrictive licensing terms.³⁴ Furthermore, a working group was formed to examine the possibility to introduce *ex ante* licensing (ie where royalties are set or discussed before a standard is agreed).³⁵ Satisfied with those measures, the Commission closed the investigation situating itself at the opposite end of the spectrum than during its first ETSI's IPR policy in 1995: less sceptical and concerned of the adoption of private regulatory measures, more preoccupied that such measures be sufficiently robust to constrain the behaviour of patent owners. Figure 1 illustrates the interaction between the two different scenarios:

³⁰See "European Commission Precedent to require ETSI to remove from their IPR declarations database an IPR holder's claim of essential IPR for an ETSI standard". <<http://www.gtwassociates.com/answers/CommissionETSI.html>> accessed 1 August 2016.

³¹At the same time, the Policy makes clear that this will not imply the obligations for ETSI members to conduct IPR searches, as recognized by section 4.2 of the IPR Policy. See ETSI Guide on IPRs <<http://www.etsi.org/images/files/IPR/etsi-guide-on-ipr.pdf>> 19 September 2013, sec 6.1–6.3.

³²ETSI Guide on IPRs, sec 4.6.2.2 and 4.6.2.3; Bekkers and Updegrove, 'A Study of IPR Policies' (n 17), Supplement 3: Analysis of the IPR Policy of ETSI, p 8.

³³See ETSI Guide on IPRs, s 2.1.1.

³⁴*ibid* sec 4.1.

³⁵European Commission, 'Competition: Commission welcomes changes in ETSI IPR rules to prevent 'patent ambush''. Press Release 12 December 2005. <http://europa.eu/rapid/press-release_IP-05-1565_en.htm> accessed 9 August 2016. The working group made several proposals, including the *ex ante* determination of a cap of the royalty payable by an implementer of a particular ETSI standard, but ETSI eventually adopted in 2007 the current policy of voluntary *ex ante* disclosure of licensing terms. See ETSI, 'Ex Ante Disclosures of Licensing Terms' <<http://www.etsi.org/about/how-we-work/intellectual-property-rights-iprs/ex-ante-disclosures>> accessed 9 August 2016; and Jorge L. Contreras, 'An Empirical Study of the Effects of Ex Ante Licensing Disclosure Policies on the Development of Voluntary Technical Standards' (June 2011) National Institute of Standards and Technology, No. GCR 11-934, 12–13.

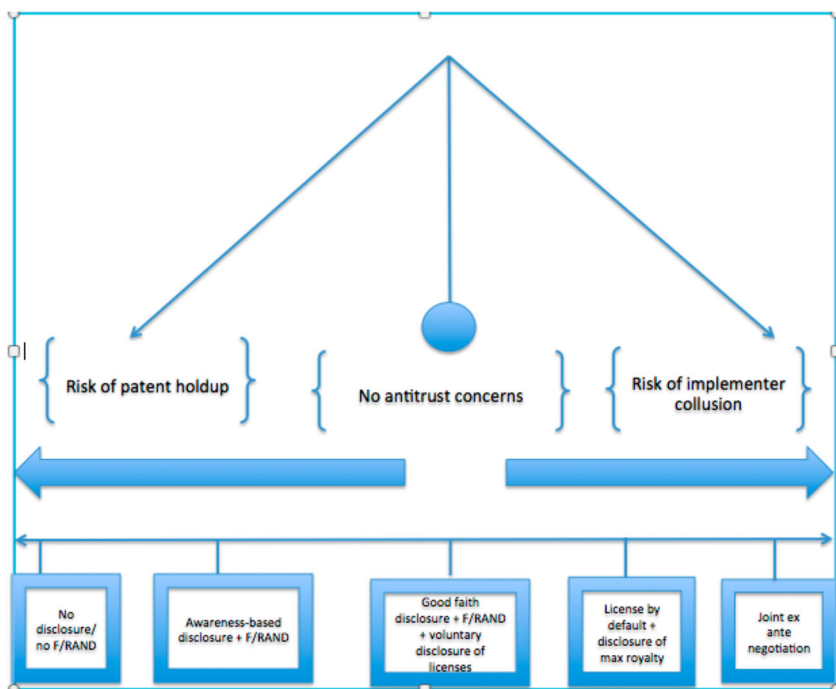


Figure 1. Shifting anticompetitive concerns with SSOs' patent policies.

the more a patent policy privileges the incentivizing over the prophylactic function, the more the SSO is prone to a patent holdup scenario (left side in the graph). The existence of such scenario may well implicate the responsibility of the SSO, as the Commission seemed to imply in the *Sun/ETSI* investigation.³⁶ As the SSO takes steps to actively minimize the risk of holdup, however, the pendulum begins moving towards a different area of concern for antitrust (right side of the graph): coordination amongst buyers, ie standard implementers.

This swinging of the pendulum between two conflicting SSO approaches to patent policy is a direct consequence of the tension between two different goals of competition policy pursued in this realm: on the one hand, limiting the possibility to use SSOs as a vehicle of collusion; on the other hand, preventing the risk that individual SEP owners take advantage of insufficient clarity in the existing procedures to exploit their advantageous position to the detriment of their

³⁶*Sun/ETSI* (n 26). See also Ruben Schellingenhout, 'Standard setting from a competition law perspective' (2011) 1 Competition Policy Newsletter 4. <http://ec.europa.eu/competition/publications/cpn/2011_1_1_en.pdf> accessed 10 August 2010. For a similar finding in United States, see *Allied Tube & Conduit Corp. v Indian Head, Inc.*, 486 U.S. 492 (1988), 500, 509.

customers and consumers. To pursue the two goals simultaneously, SSOs must remain within reasonable limits when adopting regulatory measures to address these concerns. As illustrated in the following sections, the preventative measures recently adopted by the IEEE dangerously shift the pendulum into a zone of potential collusion, exposing future IEEE standards to possible antitrust challenges. Before making a substantive analysis of those challenges, however, it is important to understand the way in which standard setting is influenced by the governance structure and the relevant procedures of the IEEE-SA.

3. Structure and governance of the IEEE-SA

The IEEE, a privately-driven organization incorporated under US law, is one of the largest technical professional societies. With around 450,000 members from nearly 160 countries, the IEEE is engaged in various branches of modern engineering and ICT industry. According to its mission statement, the activities of the Institute are predominantly aimed at fostering innovation and contributing to the global technical progress.³⁷ The Institute serves as an overarching organization for a large number of societies, boards and committees, including its Standardization Association (IEEE-SA).

A considerable number of standards for wireless telecommunications were developed under coordination of the IEEE-SA platform. For instance, standardization of the bottom two layers of the ISO/OIS protocol stack led to formation of IEEE 802.15.4³⁸ and subsequently, the ZigBee technical specification, which allowed low-cost and low-speed data transfer between devices. This short-range communication system intends to provide applications with relaxed throughput and latency requirements in WPAN, and is commonly used in traffic management systems and electrical meters with in-home displays.³⁹ Similarly, the set of specifications for Wi-Fi chipsets,⁴⁰ also referred to as the IEEE 802.11 WLAN standard, enables the interconnection of electronics technologized via wireless telecommunications. Like a number of other fundamental IEEE technical specifications, the mentioned standards are subject to industry-wide commitment and proved to be almost indispensable in modern reality. IEEE's standard development activity is

³⁷IEEE Constitution and Bylaws 2016 (June 2016) ("IEEE Bylaws") <http://www.ieee.org/documents/ieee_constitution_and_bylaws.pdf> accessed 26 July 2016, Article 1; IEEE Mission and Vision, Mission Statement <http://www.ieee.org/about/vision_mission.html> accessed 26 July 2016.

³⁸Chiara Buratti and others, 'An Overview on Wireless Sensor Networks Technology and Evolution' (2009) 9(9) *Sensors* (Basel) 6869.

³⁹See the official website of ZigBee Alliance <<http://www.zigbee.org/>> accessed 27 July 2016.

⁴⁰See the official website of the Working Group for WLAN Standards <<http://www.ieee802.org/11/>> accessed 26 July 2016.

accredited by the American National Standards Institute (ANSI),⁴¹ which implies that standards developed within its forum enjoy a certain degree of authority at both national and international levels.⁴²

Being a specialized organizational unit (“Major Board”)⁴³ of the Institute, the IEEE-SA has its own governance system and a high degree of authority over matters related to standardization.⁴⁴ Chaired by a President, who acts as a contact point for external stakeholders,⁴⁵ the IEEE-SA is governed by its own Board of Governors (BOG) that in turn establishes the Association’s policies and delivers financial oversight of the Association’s activities to the IEEE’s highest hierarchical authority, the Board of Directors.⁴⁶ A maximum of 15 BOG members is elected every two years by IEEE voting members who also hold membership of the IEEE-SA.⁴⁷

Each year, the BOG appoints the Standards Board (SASB) amongst the voting members of both IEEE-SA and IEEE.⁴⁸ The SASB plays an important role in the processes of development and approval of IEEE draft standards, and divides its activities between different SASB standing committees. For instance, the Patent Committee (PatCom) reviews standard-setting processes with regard to the use

⁴¹See the list of ANSI Accredited Standards Developers (22 June 2016) <https://share.ansi.org/Shared%20Documents/Standards%20Activities/American%20National%20Standards/ANSI%20Accredited%20Standards%20Developers/JUNE16ASD_basic.pdf> accessed 26 July 2016. The ANSI accreditation grants SSOs a status of American Standards Developer. Importantly, an SSO should re-apply for accreditation after significant modification of its standards development procedures. See American National Standards Institute, Constitution and By-Laws (2015) <https://share.ansi.org/shared%20documents/About%20ANSI/Governance/ANSI_Constitution_and_ByLaws_2015.pdf> accessed 14 August 2016, Section 6.10.

⁴²Standards crafted by the ANSI-accredited SSOs are classified as American National Standards (ANS). These are the standards typically referenced in US legislation pursuant to the US National Technology Transfer and Advancement Act of 1995 (NTTAA), which requires governmental agencies to use technical standard developed by voluntary consensus SSOs as means to reach their policy objectives. See Public Law 103–13, 110 STAT. 775 (1996) Sec 11 (4) (5) and 12(d) (1). See also “American National Standard, value of the ANS designation” <<https://share.ansi.org/shared%20documents/News%20and%20Publications/Brochures/Value%20of%20the%20ANS.pdf>> accessed 5 August 2016. Losing ANSI’s accreditation (for instance, as a consequence of departure of modified standards development procedures from the due process requirement) can severely harm an SSO’s international reputation, limiting its contribution to global standard-setting and the development of national standard-related policies.

⁴³IEEE Bylaws, I-303 Sec 2.

⁴⁴IEEE Bylaws, I-303 Sec 6.

⁴⁵IEEE-SA Operations Manual (May 2016) <https://standards.ieee.org/develop/policies/sa_opman/sa_om.pdf> accessed 26 July 2016, Article 4.2.2.1.

⁴⁶IEEE Bylaws, I-303 Sec.6. The Board of Directors is the governing body of the IEEE; as it currently stands, the Board of Directors is composed of individuals elected by the IEEE Assembly and voting members. See IEEE Constitution, Article IX Sec 1 and 2.

⁴⁷*ibid.*

⁴⁸IEEE-SA Operations Manual, Article 5.1.2.

of patented technologies.⁴⁹ PatCom is also responsible for defining the Institute's IPR Policy, although its contributions take the form of non-binding recommendations to the SASB. Modifications in the IEEE-SA's bylaws (including in the IPR Policy) involve participation of the other committee of SASB, namely the Procedures Committee (ProCom), also appointed by the SASB.⁵⁰ However, the engagement of the ProCom in the processes of alteration the IEEE-SA's bylaws is not obligatory⁵¹: for instance, the process for the Patent Policy Update in 2007 happened entirely within the PatCom.⁵²

In order to ensure that IEEE-SA standard-setting activity respects minimum procedural safeguards, a set of specific rules is defined within its regulatory framework. Each of the IEEE-SA standards development stages, namely the proposal to standardize; the definition of technical conditions and requirements to be included in the perspective standard; and the approval of a standard's draft,⁵³ should be guided by the principles of due process, openness, consensus, balance, and the right of appeal.⁵⁴

Similar principles are promoted by the US Standards Development Organization Advancement Act of 2004 (SDOAA):⁵⁵ in order to benefit from "rule of reason" treatment,⁵⁶ SSOs are required *inter alia*, to provide stakeholders access to information, to offer them opportunities to participate and express their position in standardization activities, and to prevent domination by a single interest group.⁵⁷ Finally, meetings and discussions within the IEEE-SA are guided by

⁴⁹IEEE-SA Standards Board Bylaws Article 4.2.5; this Committee is composed of at least four but not more than six persons, who must be voting members of the SASB or the BOG.

⁵⁰IEEE-SA Standards Board Bylaws, Article 4.2.1.

⁵¹IEEE-SA Standards Board Bylaws, Article 8 states that "proposed modifications to these bylaws *may be* submitted to the IEEE-SA ProCom for its consideration "... (emphasis added)

⁵²See the Request for Business Review Letter (n 11) 3–4.

⁵³This division of standards development stages is rather simplified, as each of the three stages is typically comprised out of more phases.

⁵⁴Standards Board Bylaws, Article 2.1 IEEE-SA, IEEE-SA Standards Board Operations Manual (December 2015) <http://standards.ieee.org/develop/policies/opman/sb_om.pdf> accessed 26 July 2016, Article 5.3.3, IEEE-SA Operations Manual, Article 1.2.

⁵⁵Standards Development Organization Advancement Act of 2004 (2004), Public Law 108 – 237, 188 Stat. 661 (2002) Sec 101 (5). The term 'Standards Development Organization' (or "SDO") is equivalent to "Standard-Setting Organization" (or "SSO"), more commonly used in the United States.

⁵⁶15 U.S. Code § 4302 and SDOAA 2004, Sec 104 (2).

⁵⁷SDOAA 2004, Sec 102 (5); The SDOAA amends the text of the National Cooperative Research and Production Act of 1993 to, among other things, extend to SSO the more lenient treatment of joint venture under antitrust law: see 15 U.S.C. §§ 4301–06. In particular, the amendment provides that "the conduct of [...] a standards development organization while engaged in a standards development activity [...] shall not be deemed illegal *per se*; such conduct shall be judged on the basis of its reasonableness, taking into account all relevant factors affecting competition, including, but not limited to, effects on competition in properly defined, relevant research, development, product, process, and service markets".

the Association's Antitrust and Competition Policy⁵⁸ and subject to the Robert's Rules of Order (RORN),⁵⁹ which defines procedures applicable to meetings, debates and balloting in organizations and assemblies.

Compliance with the aforementioned rules and principles, together with the largely overlapping requirements imposed by ANSI⁶⁰ and the principles for the development of international standards of the WTO,⁶¹ ensures that standards crafted as a result of those standards development processes do not constitute manipulation and result in a barrier to trade and development. The consistency of this framework would be undermined by an interpretation, explained in Section 4.2 below, according to which such principles do not apply to the development of policies (such as the Patent Policy Update) which are pertinent to the IEEE's standard-setting activities.

4. IEEE-SA's patent policy update

4.1. Changes introduced by the policy update

While IEEE-SA's Patent Policy had always been based on *ex ante* disclosure of SEPs and FRAND commitments (through the submission of apposite Letters of Assurance), in 2007 the organization reported suboptimal results in the utilization of these mechanisms to avoid disputes over licensing terms. In particular, it identified two difficulties in relying on SEP owners' FRAND commitments: the vagueness of those commitments, which could lead to extensive litigation delaying the entry of new products; and the prohibition of any discussion of licensing terms

⁵⁸IEEE SA Antitrust and Competition policy, last updated on 24 August 2010, <<http://standards.ieee.org/develop/policies/antitrust.pdf>> accessed 9 August 2016. The policy provides practical, yet non-binding, guidelines to avert the possibility of anticompetitive agreements.

⁵⁹Robert's Rules of Order Newly Revised, 11th ed (Da Capo Press, 2011).

⁶⁰ANSI Essential Requirements: Due Process Requirements for American National Standards (January 2016) www.ansi.org/essentialrequirements accessed 26 July 2016. Being an ANSI-accredited standards developer (ASD), the IEEE must ensure that standards development procedures of the IEEE-SA meet the ANSI requirements for openness and due process, and represent the consensus of materially affected and interested stakeholders. By the same token, ANSI's acceptance of the Technical Barriers to Trade (TBT) Code of Good Practice makes the WTO norms applicable to the ANSI-accredited organizations (See the List of Standardizing Bodies that have accepted the Code of Good Practice since 1 January 1995, G/TBT/CS/2/Rev.22 (February 2016)).

⁶¹See Decision of the TBT Committee on principles for the development of international standards, guides and recommendations with relation to Articles 2, 5 and Annex 3 of the Agreement. G/TBT/1/Rev.7, 28 November 2000, Section IX (referring to the principles of transparency, openness, impartiality, consensus, coherence, effectiveness and relevance). Compliance with those principles ultimately triggers a presumption that the resulting standards do not constitute (potential) barriers to international trade and development (TBT Agreement, Article 2.4).

within Working Groups,⁶² which prevented working group members from making sensible cost-benefit comparisons and therefore reaching decisions on a consensus basis.⁶³ To overcome these challenges, the IEEE-SA proposed a modification enabling patent holders to disclose the most restrictive licensing terms (which may include the maximum licensing rate) of their SEPs, and allowing Working Group members to discuss the relative costs and benefits of alternative technologies within technical standard-setting meetings under certain conditions. As acknowledged by the DoJ in its Business Review Letter, those conditions included the ability to discuss the costs of licensing the essential patent claims needed to implement the technologies under consideration, but do not allow joint negotiation and discussion of specific licensing terms, as that would lead to coordination giving rise to possibly anticompetitive effects.⁶⁴

Confirming its positive assessment of the analogous patent policy update approved in its VITA Business Review Letter in 2006, the DoJ condoned the proposed modifications. It also noted that the enactment of these measures may not be desirable for all SSOs, in particular as voluntary disclosure of most restrictive licensing terms may lead to a decrease in participation of standard-setting activities by patent holders.

Despite recent approval and implementation of those modifications, the DoJ was soon confronted with another Business Review request for an important alteration of the IEEE-SA's patent policy. The alteration was the result of the work of an *ad-hoc* group formed to discuss the six propositions⁶⁵ made by Deputy Assistant Attorney General Renata Hesse at a roundtable on the effectiveness of FRAND organized by the International Telecommunication Union on 10 October 2012.⁶⁶ In its request on 30 September 2014, IEEE-SA's attorney explained that practical experience had shown the insufficiency of the 2007

⁶²See IEEE Antitrust and Competition Policy (n 56) 4–5.

⁶³IEEE-SA Request for Business Review Letter 2007 <<https://www.justice.gov/sites/default/files/atr/legacy/2014/01/28/302148.pdf>> accessed 15 September 2016, p 5.

⁶⁴*ibid* 11.

⁶⁵The six proposals were the following:

- Put some limitations on the right of the patent holder who has made a FRAND licensing commitment to seek an injunction
- Find ways to lower the transactions cost of determining FRAND licensing terms
- Identify proposed technology that involves patents which the patent holder has not agreed to license on FRAND terms in advance.
- Make it clear that licensing commitments transfer to subsequent purchasers.
- Allow licensees to request cash-only licensing terms; prohibit the mandatory cross-licensing of patents that are not essential to the standard or a related family of standards; and permit voluntary cross-licensing of all patents.
- Increase certainty that patents declared essential are essential to the standard after it is set.

⁶⁶Renata Hesse, Deputy Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Justice, Six 'Small' Proposals for SSOs Before Lunch, Remarks as Prepared for the ITU-T Patent

patent policy to deal with the problem of vagueness of FRAND,⁶⁷ particularly since the opportunity to disclose the most restrictive licensing terms had only been used in 2 out of the 40 occasions in which SEP holders submitted a Letter of Assurance (LOA) committing to license on FRAND terms. He noted that clarification of the meaning of RAND had been encouraged by regulators in US and EU, as well as by retail companies alleging to have been involved in disputes for disproportionate royalty requests in relation to the use of a standard. As a result, the Business Review Request sought approval of four fundamental changes in the patent policy:

- First, a clarification that patent holders are bound by the IEEE RAND Commitment to license their patents for “any Compliant Implementation”, whereby “Compliant Implementation” is defined as any product (eg component, sub-assembly, or end-product) or service that conforms to any mandatory or optional portion of a normative clause of an IEEE Standard”.⁶⁸
- Second, a clarification that a LOA posted on IEEE’s website “signifies that reasonable terms and conditions, including without compensation or under Reasonable Rates, are sufficient compensation for a license to use those Essential Patent Claims” and “precludes seeking, or seeking to enforce, a [n injunction]⁶⁹ except as provided in [IEEE-SA’s] policy”.⁷⁰ The foreseen exception is when “the implementer fails to participate in, or to comply with the outcome of, an adjudication, including an affirming first-level appellate review [...] by one or more courts that have the authority to: determine Reasonable Rates and other reasonable terms and conditions; adjudicate patent validity, enforceability, essentiality, and infringement; award monetary damages; and resolve any defenses and counterclaims”.⁷¹
- Third, a clarification that “Reasonable Rate” means “appropriate compensation to the patent holder for the practice of an Essential Patent Claim excluding the value, if any, resulting from the inclusion of that [...] technology in the IEEE standard”.⁷² In particular, determination of such Reasonable Rates should include: (a) the value that the functionality of the

Roundtable 13 (10 October 2012) <<http://www.justice.gov/atr/public/speeches/287855.pdf>>.

⁶⁷See also Lindsay’s letter to Assistant Attorney General Baer (n 4), citing Christine Varney’s Six Proposals speech: “Clarity alone does not eliminate the possibility of hold up ... but it is a step in the right direction”.

⁶⁸IEEE-SA, ‘IEEE-SA Standards Board Bylaws’ (2015) [6.1] (definition of “compliant implementation”).

⁶⁹More specifically, the policy refers to a Prohibitive Order, which is defined in [6.2] as “an interim or permanent injunction, exclusion order or similar decision that limits or prevents making, using or selling a compliant implementation”.

⁷⁰IEEE-SA, ‘IEEE-SA Standards Board Bylaws’ (2015) [6.2] (emphasis added).

⁷¹ibid [6.2].

⁷²ibid [6.1].

claimed invention or inventive feature within the Essential Patent Claim contributes to the value of the relevant functionality of the smallest saleable Compliant Implementation (SSCI) that practices the Essential Patent Claim; (b) the value that the Essential Patent Claim contributes to the SSCI that practices that claim, in light of the value contributed by all Essential Patent Claims for the same IEEE Standard practiced in that Compliant Implementation; and (c) the existing licences covering use of the Essential Patent Claim, where such licences were not obtained under the explicit or implicit threat of a Prohibitive Order, and where the circumstances and resulting licences are otherwise sufficiently comparable to the circumstances of the contemplated licence.

- Fourth, a clarification that SEP holders can require reciprocity with regard to the licensee's patents that are essential to the same standard, but not with regard to non-SEPs or patents that are essential to other standards.

In its Business Review Letter, the DoJ expressed the view that these changes offer the advantage of bringing clarity to the existing framework, thereby facilitating negotiations between SEP owners and standard implementers. With particular reference to the exclusion of injunctive relief before final adjudication of infringement, validity or essentiality, the DoJ viewed the provision as unproblematic because it was not "significantly more restrictive than current U.S. law".⁷³ It also reasoned that patent owners can always refuse to submit LOAs if they want to maintain their right to seek injunctive relief. In taking this formalistic view of what patent owners remain *free* to do, however, the DoJ failed to acknowledge the reality of negotiations in terms of what patent owners are *incentivized* to do, considering the likely exclusion of LOA-free technology from relevant IEEE standards.⁷⁴ In a similar fashion, the DoJ downplayed the role of the royalty determination method, noting that its identified criteria are merely "recommended", and that it remains open to parties' negotiation over *additional* elements. Finally, it observed that the duty to grant licences to any compliant implementation does not mandate the use of specific (or the same) licensing terms at different level of production, and that cross-licensing and portfolio licensing of patents not essential to the standard can be obtained (but not imposed) through negotiations.

⁷³Business Review Letter (n 12) 10.

⁷⁴For evidence of the likelihood of this scenario, see the case of the work around the IEEE-802.11ah standard amendment, the so called "Long Range WLAN at Sub 1 GHz", narrated by Katznelson (n 11) 4. In that working group, a design-around solution was proposed to avoid using the (46) SEPs declared by Qualcomm in standard IEEE-P802.11ah, for which Qualcomm had failed to submit a Letter of Assurance in line with the revised IP policy. The working group could not make a compromised solution, and therefore postponed discussions about this standard amendment to its next meeting in July 2016. See <<https://mentor.ieee.org/802.11/dcn/15/11-15-0950-00-00ah-july-2015-tgah-closing-report.pptx>> accessed 10 August 2016.

As a result, the DoJ concluded that any anticompetitive harm in the Policy Update was not likely, and to the extent that there is such harm, “potential procompetitive benefits likely outweigh [it]”.⁷⁵ It is worth noting however that, while this statement reflects the “rule of reason” type of balancing followed in the United States for agreements such as those described in the IEEE-SA patent policy,⁷⁶ an assessment of the same practice under EU competition law would be conducted under a different analytical framework, possibly leading to conflicting results. Prior to delving into that framework in Section 5, the following subsection describes the key steps of the process through which the Policy Update came into being.

4.2. *The process leading to the policy update*

In order to discuss possible amendments of its Patent Policy, an *Ad Hoc* committee (further referred to as *Ad Hoc*) was appointed by the PatCom during a meeting in March 2013 (Appendix 1).⁷⁷ This committee consisted of seven 2013 PatCom members, an upcoming 2014–2015 PatCom member an upcoming 2014–2015 PatCom non-voting member, one IEEE staff member and two non-voting members of the 2016 BOG (the secretary and the administrator). In the following two years, the members of the *Ad Hoc* committee joined forces to develop the Policy Update. The Policy was drafted by a subcommittee of the *Ad Hoc* within 15 months following the meeting of March 2013. Since neither the minutes the *Ad Hoc* committee’s meetings, nor those of the subcommittee were publicly available, the course of the discussions and the rationale behind the decisions taken at those meetings remain unknown. In the view of the *Ad Hoc* committee, however, this accountability gap was filled by the presentation of reports at the PatCom meetings and the IEEE-SA Patent Forum.⁷⁸

After the *Ad Hoc*’s approval, the draft was opened for an online public review and commenting. In total, four drafts were available for the public review, 680 comments were made and 547 of them were responded to by the *Ad Hoc*. The forth and the last version incorporated some of the suggested modifications,⁷⁹ and was approved by the PatCom in June 2014 in a process of simple majority

⁷⁵ibid 16.

⁷⁶As noted, rule of reason treatment is granted to SDOs provided that they fulfil a number of requirements. However, the IEEE’s departure from the principles of due process and consensus, as documented in the present section, suggests that IEEE-SA standard-setting activity under the new Policy would not be eligible for the USDOA safe harbour, calling for a stricter scrutiny of potentially anticompetitive conduct.

⁷⁷PatCom Meeting Minutes of 4 March 2013 <<http://standards.ieee.org/about/sasb/patcom/0313mins.pdf>> accessed 27 July 2016.

⁷⁸Request for Review Letter (n 11) 13–15.

⁷⁹See eg the example brought by Konstantinos Karachalios, ‘Updating the Patent Policy’, SES Standards Engineering (July–August 2016) 19.

voting, with favourable vote from three individuals who were also members of the *Ad Hoc* committee.⁸⁰ The negative votes came from the two individuals who were not part of the committee.⁸¹ The Chair,⁸² who was also the member of the *Ad Hoc*, abstained. The draft was subsequently submitted for consideration of the SASB, which discussed the proposed Policy Update in its open session held in August 2014. After accepting the PatCom report in paper balloting,⁸³ the SASB forwarded the draft to the BOG for approval,⁸⁴ which took place in December 2014.⁸⁵ Subsequently, a final approval was sought and obtained from the Board of Directors at a meeting in February 2014.⁸⁶

The high approval rate at the BOG and the additional support obtained from the Board of Directors indicate the attainment of consensus⁸⁷ and the review by the democratically elected authority of the IEEE.⁸⁸ However, it is questionable whether the deficiencies in the processes of policy development and approval at the lower levels, namely SASB, PatCom and *Ad Hoc* committee can be adequately remedied by these measures taken at the highest hierarchical level.

Firstly, as it appears from the composition of the *Ad Hoc* and the 2014 PatCom, charged with the crucial decision of accepting the Policy Update, the revised Policy was not drafted by all interested stakeholders; rather, the process was dominated by major technology users, who systematically defended their own

⁸⁰Those individuals were affiliated with Microsoft, Intel and Apple. See PatCom Meeting Minutes of 10 June 2014 <<http://standards.ieee.org/about/sasb/patcom/0614patmins.pdf>> accessed 27 July 2016.

⁸¹Affiliated with Alcatel – Lucent and Ericsson.

⁸²Affiliated with Hewlett Packard.

⁸³The SASB approved the revised Policy with 14 votes in favour and 5 votes against, IEEE-SA Standards Board Meeting Minutes of 20–21 August 2014 <<http://standards.ieee.org/about/sasb/0814sasbmin.pdf>> accessed 27 July 2016. Unlike the minutes of the PatCom meetings, the minutes of the SASB meetings do not reveal the identity of individuals behind every vote. Such form of paper balloting should therefore be considered “secret balloting.” Following the RORN it is typically used “when the question is on such nature that some members might hesitate to vote publically their true sentiments”, and requires a prior motion. See RORN (n 59) [30] “Motions Relating to Methods of Voting and the Polls” at 285.

⁸⁴See IEEE-SA Board of Governors Resolution of December 2014 <<https://standards.ieee.org/about/bog/resolutions.html>> accessed 4 August 2016.

⁸⁵With one BOG member recusing from vote, the draft was approved with nine votes in favour and three votes against. IEEE Standards Association Board of Governors (BOG) Meeting Minutes of 5 December 2014, on file with the authors.

⁸⁶See Konstantinos Karachalios, ‘Updating the Patent Policy’ (n 79) 18; Rudy Bekkers, ‘Concerns and evidence with ex post holdup’ <http://papers.ssm.com/sol3/papers.cfm?abstract_id=2663939> accessed 8 August 2016.

⁸⁷The BOG approval rate of 75% (9 out of 12 votes in favour) complies with the requirement of “consensus” for standards approval, see IEEE-SA Standards Board Operations Manual, Article 5.4.3.3 and 5.4.3.5; and Konstantinos Karachalios, ‘Updating the Patent Policy’ (n 79).

⁸⁸See n 46.

commercial interests in favour of certain policy changes.⁸⁹ Technology owners, who should have been represented in the *Ad Hoc* as a counterweight to equipment manufacturers and vendors, were involved in the process only at its final stages. Their negative votes during the PatCom ballot in June 2014 could not possibly have made a difference for the outcome, as they were outnumbered by the members of the *Ad Hoc* itself.⁹⁰

Secondly, and relatedly, the Patent Policy drafting process failed to comply with the IEEE-SA core principle of consensus, which requires a substantial agreement reached between directly and materially affected interest groups⁹¹ and implies a consideration of all diverging views and objections.

Thirdly, it remains questionable whether the provision of the motion for paper balloting during the SASB meeting entirely followed the procedure prescribed in the RORN.⁹² While an action requiring a specific vote can in principle be taken by unanimous consent reflecting the will of governing body,⁹³ a prior verification by the chair that no member objects as regard the action is necessary for obtaining the unanimous consent.⁹⁴ Since the minutes of the SASB meeting are silent as regards this verification by the chair, the compliance of the balloting process with the RORN cannot be established with certainty.⁹⁵

Finally, the IEEE-SA appears to have failed to fulfil its duty of coordination with respect to its independent US affiliate IEEE USA,⁹⁶ which specifically objected to the Policy Update. In its resolution of 21 November 2014, the IEEE-USA Board of Directors sought clarification on the evidence that the IEEE (-SA) was harmed by the 2007 Policy, the specific problems addressed by

⁸⁹Roy E. Hoffinger (n 13) 6–7.

⁹⁰For a further empirical analysis of the process of the development and the adoption of IEEE-SA Patent Policy Update and the handling of the comments submitted during the public review, see Sidak, ‘Testing for Bias to Suppress Royalties for Standard-Essential Patents’ (n 13).

⁹¹IEEE-SA Standards Board Bylaws, Article 2.1.

⁹²See SASB meeting minutes of 20–21 August (n 83) item 11.1.

⁹³See IEEE-SA BOG Appeal Officers Decision, 22 October 2014, which references Chapter XIII, Section 45 of the RORN, on file with the authors.

⁹⁴See RORN (n 59) [4] “The Handling of a Motion” at 54, stating that “To obtain unanimous consent (...) the chair states that “If there is no objection ... [or, ‘Without objection ... ’]” (...) or he may ask, “Is there any objection to ... ?” He then pauses, and if no members call out (...) the action is decided upon (...).”

⁹⁵By the same token, it is unclear whether the statement of no objections has been asked by the chair during the BOG voting which similar to the SASB occurred via paper balloting; see (BOG) Meeting Minutes of 5 December 2014 (n 85).

⁹⁶Much as the IEEE-SA, the IEEE-USA is an organizational unit (‘Major Board’) of the IEEE. Pursuant to I-303 Sec 2 IEEE Bylaws, Major Boards should coordinate programmes related to the missions of other Major Boards. Since the core activities of the IEEE-USA include recommending policies intending to serve engineering professionals and general public of the US ((IEEE Bylaws I-303 Sec 8), it has a considerable interest in policies governing Institute’s standardization activities.

the proposed change and the way in which each of the proposed changes contributes to resolving those problems.⁹⁷ Despite their significance, those questions were never addressed by the IEEE-SA.⁹⁸

Despite the above-mentioned issues, the IEEE-SA Patent Policy Update has survived a series of appeals. In August 2014, the proposed policy amendments were appealed by the technology owners disadvantaged by the substantive and procedural aspects of the updated Patent Policy before the BOG.⁹⁹ This appeal was rejected by the BOG, which in contrast to the claim of the appellants, considered the appeal not related to inaction of the SASB and therefore not timely.¹⁰⁰ A second appeal, this time related to the SASB approval of draft policy modifications, was filed before the BOG in September 2014,¹⁰¹ but failed due to the appellants' failure to establish a *prima facie* case, and thus obtain BOG Appeal Panel jurisdiction.¹⁰²

The subsequent re-accreditation of the IEEE as an Accredited Standard Developer (ASD)¹⁰³ was appealed before the ANSI Executive Standards Council (ExSC) in October 2015, followed by a hearing on 9 February 2016.¹⁰⁴ In its reasoning, the ANSI ExSc Panel determined that the ANSI Essential Requirements, compliance with which serves as a basis for ASD accreditation,¹⁰⁵ do

⁹⁷Motion Approved by the IEEE-USA Board of Directors (November 2014), www.ieeeusa.org/volunteers/committees/IPC/IEEEUSAPatentPolicyMotionNov14.pdf accessed 27 July 2016.

⁹⁸Ron Katznelson, 'Perilous Deviations from FRAND Harmony' (n 13).

⁹⁹The appellants were Qualcomm Incorporated, Alcatel-Lucent USA Incorporated, Fraunhofer-Gesellschaft e.V., InterDigital Incorporated, Nokia Corporation, Nokia Solutions and Networks Oy, Panasonic Corporation, and SanDisk Corporation. Appellants' Appeal Brief of 11 August 2014, on file with the authors.

¹⁰⁰The BOG Appeal Panel stated that the SASB members' decision to hold a joint meeting with the PatCom, which initiated the process of policy approval on the top hierarchical levels of the IEEE-SA and the IEEE, constituted an "action". Pursuant Section 5.8.3 of IEEE-SA Standards Board Operations Manual, an action can be appealed within 30 days following its notification, while "inaction" can be appealed within 60 days. The appeal at issue was filed within 60 days, exceeding the time limit granted by the IEEE-SA regulatory framework. Furthermore, even if the appeal had been timely, the BOG Appeal Panel considered the voting on draft policy approval within the SASB as a remedy for the claimed "inaction". See IEEE-SA BOG Appeal Officers Decision, 18 September 2014, on file with the authors.

¹⁰¹Appellants' Appeal Brief of 18 September 2014, on file with the authors.

¹⁰²In brief, the BOG Appeal Panel based its decision on Section 5.4 of the IEEE-SA Standards Board Bylaws, which provided that appeal can be filed by those adversely affected by a *standard or lack of action* in IEEE standardization process (emphasis added). The claims put forward by the appellants were found not to be related to any of the two conditions. See IEEE-SA BOG Appeal Officers Decision, 22 October 2014, on file with the authors.

¹⁰³See n 41.

¹⁰⁴The appellants were Alcatel-Lucent, Ericsson and Qualcomm.

¹⁰⁵See n 41.

not apply to the development of standard-setting policies.¹⁰⁶ For this reason, the ExSC Panel rejected the appeal, explaining that SSOs are free to draft their own policy without necessarily adopting an open and consensus-based process.¹⁰⁷

In the authors' view, if this is in fact the correct scope of application of the ANSI requirements, there is an important flaw in the (US) governance of SSOs. In the case of IEEE, more specifically, the above-mentioned principles are crucial to fulfil its mission ensuring that humanity (and not only a fraction of it) is benefitted.¹⁰⁸ The justification that the application of consensus requirement to policy-making activity would prevent the IEEE-SA from acting in the interests of the Institution¹⁰⁹ sits at odds with the IEEE-SA's role of a consensus-based SSO. Given the inseparability of the rules and policies for standards development from the actual process of standardization, the ANSI and WTO principles should logically apply not only to standards development processes, but also to the development of any policies governing the Institute's standardization activities. This is especially the case in a patent-intensive sector, where patent policies are decisive for any corresponding standardization agreements. Furthermore, the argument that development of SSOs Patent Policies is inseparable from its standardization activities is also supported by the SDOAA, which adopts a definition of "standard development activity" explicitly covering any actions taken with respect to an SSO's patent policy.¹¹⁰

¹⁰⁶ANSI Executive Standards Council, Summary Decision, 25 February 2016, on file with authors.

¹⁰⁷It is worth noting that the ANSI Intellectual Property Right Policy Committee was asked to vote on compliance of the proposed IEEE Patent Policy with the ANSI Patent Policy. The results of this balloting (15 votes in favour of compliance, 10 votes against and 11 abstained) indicate a considerable degree of doubt between the members of the ANSI IPR Policy Committee. See ANSI Executive Standards Council, Summary Decision.

¹⁰⁸IEEE's official mission is "to foster technological innovation and excellence for the benefit of humanity". See IEEE mission statement at <http://www.ieee.org/about/vision_mission.html> accessed 10 August 2016. For a more detailed elaboration of IEEE's purpose, see article I of the IEEE Constitution.

¹⁰⁹IEEE-SA Standards Board Bylaws Change Process <http://grouper.ieee.org/groups/pp-dialog/bylaws_process.html> accessed 27 July 2016. This argument has also been invoked in the response to the comments on the Patent Policy drafts, for instance IEEE-SA PatCom – IEEE-SA Standards Board Bylaws First pass report 5th Aug 2013 draft comments of 23 September 2013, IEEE-SA PatCom – IEEE-SA Standards Board Bylaws 4 Mar 2014 draft – Final responses to comments of 10 May 2014 (Draft and Comments Received <http://grouper.ieee.org/groups/pp-dialog/drafts_comments/> accessed 27 July 2016. at <http://www.ieee.org/about/vision_mission.html> accessed 10 August 2016.

¹¹⁰Standards Development Organization Advancement Act of 2004 (n 57), Sec 103: "The term 'standards development activity' means any action taken by a SDO for the purpose of *developing*, promulgating, revising, amending, reissuing, interpreting, or otherwise maintaining a voluntary consensus standard, or using such standard in conformity assessment activities, including actions relating to the *intellectual property policies* of the standards development organization" (emphasis added). Yet, this argument was found unpersuasive by the ANSI ExSC Panel, see summary decision, (n 106).

5. The new policy under the lens of EU competition law

One of the consequences of lack of consensus and balanced stakeholder participation in the process leading to the Policy Update is the antitrust concern of collusion stemming from the capture of the process by a selected majority.¹¹¹ In this sense, the argument could be made that Policy Update constitutes a decision by an association of undertakings having as effect the prevention, restriction or distortion of competition. Accordingly, the Policy Update might run afoul of article 101 (1) of the Treaty on the Functioning of the EU (TFEU), which prohibits agreements between undertakings, decisions by associations of undertakings and concerted practices having as their object or effect the prevention, restriction or distortion of competition within the EU internal market, and which have the potential to affect trade between Member States.

Given the global and widespread application of IEEE standards, virtually any standard development activity of the IEEE can be caught by the antitrust jurisdiction of the European Union. Specifically, article 101 (1) can be invoked to curb anticompetitive practices which are predominantly or even exclusively carried out outside the EU as long as there has been an implementation or an immediate, substantial and foreseeable effect in the EU territory.¹¹² The application of EU competition law to the activities of the IEEE (-SA) is thus not precluded by the incorporation of the Institute in the United States.

This section endeavours to do that in four parts. First, Section 5.1 illustrates the inapplicability to the Policy Update of the so-called “safe harbour” provided for standardization agreements under article 101 TFEU, concluding that a more substantive analysis is required. Second, Section 5.2 explains the four major amendments introduced with the Updated Policy, suggesting that these *may* be

¹¹¹These concerns were discussed in various occasions during and after the development of the revised draft Patent Policy; see, for instance, Draft and Comments Received <http://grouper.ieee.org/groups/pp-dialog/drafts_comments/> accessed 27 July 2016, letter submitted by Gregory Sidak to Deputy Assistant Attorney General Hesse on 28 January 2015 <<https://www.criterioneconomics.com/proposed-ieee-bylaw-amendments-affecting-frand-licensing-of-seps.html>> accessed 27 July 2016.

¹¹²The European Court of Justice has accepted the extraterritorial application of EU competition law in numerous occasions. For instance, in *Dyestuffs* (Case 48/69, *Imperial Chemical Industries Ltd. v Commission* [1972] ECR-619) and *Woodpulp* (Joined Cases 89/85, 104/85, 114/85, 116/85, 117/85 and 125/85 to 129/85 *hlström and Others v Commission* [1988] ECR – 5193), the Court upheld jurisdiction where an agreement or concerted practice had been implemented in the territory of the European Union, in particular through subsidiaries or trading parties operating in the EU. Furthermore, in more recent cases the General Court endorsed a theory of “qualified effects”, according to which the Commission’s jurisdiction extends to conduct having immediate, substantial and foreseeable effects in the European Union. See Case T-102/96, *Gencor v Commission* [1999] ECR II-753; case T-286/09, *Intel Corp. v Commission*, currently on appeal to the ECJ). It is thus not difficult to imagine that, given the global application of IEEE standards, EU jurisdiction can be exerted on the basis of the manufacturing and commercialization decisions made by standard implementers, and the effects derived therefrom.

considered a restriction of competition within the context of future IEEE standardization activities. In a third stage, possible defences to claims of infringement of article 101 TFEU are analysed. For example, one may reasonably claim that certain restrictions of competition, such as those introduced through the Policy Update, are objectively necessary to the establishment of a standardization agreement. By the same token, it can be argued that the restrictions imposed by the new IP Policy would generate efficiencies in accordance with the test devised in article 101 (3) TFEU, even if falling short of the “objective necessity” required under article 101 (1). Although not necessarily providing a conclusive answer, Sections 5.3 and 5.4 will detail some of the elements that are relevant to the assessment of the IEEE-SA’s Policy Update under these two inquiries.

5.1. *Assessment under horizontal cooperation guidelines*

The European Commission has facilitated the application of article 101 with the formulation of both general guidelines on the application of article 101 (3),¹¹³ and more specific guidelines which seek to clarify the interpretation of article 101 with regard to certain types of agreements. The specific Guidelines of relevance for the assessment of the Policy Update are the Horizontal Cooperation Guidelines,¹¹⁴ which apply to agreements between actual or potential competitors to jointly engage in R&D, production, purchasing, commercialization or standardization.

Standardization agreements, in particular, have as their primary objective the definition of technical or quality requirements with which current or future products, production processes, services or methods may comply.¹¹⁵ While an SSO’s Patent Policy does not directly or exclusively define those requirements, its role in attracting technology developers and manufactures is such that it defines “terms of access” to the relevant technical standard,¹¹⁶ at least in patent-intensive sectors involving SEPs. For this reason, this Policy can be deemed embedded (by incorporation) into specific standard-setting agreements involving SEPs. It is thus possible to analyse the Policy within the context of each standardization agreement to which it gives rise, assessing whether its rules of licensing and disclosure give rise to actual or likely anticompetitive effects with regard to a particular standard.

There is also one possible – albeit imperfect – way to conduct this assessment in the abstract, namely by examining whether the Policy Update increases the

¹¹³Guidelines on the application of Article 81(3) of the Treaty [2004] C 101/97 (“101(3) Guidelines”).

¹¹⁴Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements [2011] C 11/1, further referred to as ‘Guidelines’.

¹¹⁵Guidelines [257].

¹¹⁶See, by analogy, the Guidelines referring to the terms of access “to a particular quality mark or for approval by a regulatory body.” *ibid.*

likelihood that IEEE's standardization falls foul of EU competition law. A first important step of that analysis is to verify whether the agreement concerning the revision of the Policy would qualify for the so called "safe harbour", which implies immunity from scrutiny under EU competition law.

Pursuant to the Guidelines, standardization agreements "normally" fall outside the scope of article 101 (1) as long as they comply with a set of four cumulative requirements.¹¹⁷ Condition (1) of this *safe harbour* is unrestricted participation in standard-setting,¹¹⁸ including impartial and non-discriminatory balloting procedures and objective criteria for selecting technology to be included in the standard.¹¹⁹ This requirement is amply fulfilled in the IEEE-SA's standard-setting procedures, which allow every party to join standards development stages and ensure equality in the standards approval stage by prohibiting domination by a single stakeholder group in the balloting process.¹²⁰ The IEEE-SA also fulfils this criterion by providing numerous occasions to approach and invite interested parties for the work conducted in Study and Working Groups.¹²¹ However, an opposite conclusion can be reached with regard to the process followed for the 2015 Policy Update: first, the Policy was drafted by a close group of stakeholders affiliated to companies with certain commercial interests, appointed through a non-transparent process. Furthermore, no call for participation was issued prior to establishing the *Ad Hoc* committee, keeping the concerned parties uninformed about the drafting process.

Where the criterion of unrestricted participation cannot be fully met, the negative effects can be minimized by informing and consulting interested parties on the drafting processes.¹²² In this regard, condition (2) of the safe harbour requires procedures for adopting the standard in question to be transparent, and the processes leading to defining a standard to take into account the interests of all stakeholders.

¹¹⁷Guidelines [278] and ff. The word "normally" used in the Guidelines seems to imply that there may be exceptional circumstances under which the safe harbour would not apply, even in the presence of all the requirements.

¹¹⁸This condition is based on the Commission Decision in case Ship Classification. The Commission's preliminary view was that, given that all members of the International Association of Classification Societies (IACS) had a strong position on the relevant market, the technical resolutions and standards of the IACS brought significant competitive disadvantages for the non-members of the IACS. In this regard, the Commission proposed to adopt objective, transparent and non-discriminatory qualitative membership criteria. See Commission Decision Ship Classification of 14 October 2009 in Case 39.416, Ship Classification C (2009) 7796 [3.3] and [4.1].

¹¹⁹Guidelines [281].

¹²⁰For a detailed explanation of IEEE-SA standard-setting procedures, see Nicolo Zingales and Olia Kanevskaia, 'The IEEE-SA Patent Policy Update under the Lens of EU Competition Law' TILEC Discussion Paper 2016 – 31 <<https://www.tilburguniversity.edu/research/institutes-and-research-groups/tilec/research/publications/discussionpapers/>>, Section 3.2.

¹²¹*ibid.*

¹²²Guidelines [295].

The standards development processes of the IEEE-SA fulfil those criteria by, *inter alia*, making prior announcements of future meeting venues and publishing the minutes of the meetings.¹²³ However, the facts that the meetings of the *Ad Hoc* took place in private, and that its minutes were not promptly (or ever, in the case of the subcommittee) made available,¹²⁴ suggest a more closed ecosystem, in stark contrast with the notion of transparency put forward in the Guidelines. Moreover, the criteria for the selection of members engaged in the drafting and approving processes of the *Ad Hoc* and its subcommittee are missing from public documents. Finally, it has been shown that the approval by PatCom, which led to the decision to transfer the revised draft Policy for SASB consideration, was obtained by a vote that does not reflect the consensus required for the development of IEEE-SA standard documents,¹²⁵ and hence, PatCom did not take into account the interests and views of all stakeholders when approving the Patent Policy draft.

Condition (3) of the safe-harbour relates to the voluntary character of the standards. This condition is where the assessment of the Policy under the safe harbour becomes most challenging: is formal compliance with voluntariness sufficient, or does the context in which the Policy operates influence the understanding of “voluntary”? In principle, SEP holders can choose in their LOAs to either grant licences under FRAND or Z-FRAND (ie FRAND but without compensation) in accordance with the updated Policy, or to be unwilling or unable to grant such licences.¹²⁶ As a matter of fact, however, the latter option is likely to lead to the exclusion of the corresponding patents from the technology considered for the standard.¹²⁷

¹²³See section 3.2.

¹²⁴This was mentioned as a comment to the draft IEEE-SA Standards Board Bylaws on the 5th August 2013, see n 109.

¹²⁵Following 2.1 of the IEEE-SA Standards Board Bylaws, ‘consensus is established when substantial agreement has been reached by directly and materially affected interest categories’. In this regard, ‘substantial agreement means much more than a simple majority’.

¹²⁶The range of options available recently changed with the latest version of form of LOA available on the IEEE’s website. See <<https://development.standards.ieee.org/myproject/Public/mytools/mob/loa.pdf>> accessed 15 September 2016. The revised form replaces the one available in the immediate aftermath of the approval of the Policy, under which a number of SEP holders exercised their ability to commit to licensing only according to the rules of the pre-modification version of the Patent Policy. See Susan Decker and Ian King, ‘Qualcomm Says It Won’t Follow New Wi-Fi Rules on Patents’ Bloomberg Technology (11 February 2015) www.bloomberg.com/news/articles/2015-02-11/qualcomm-says-new-wi-fi-standard-rules-unfair-may-not-take-part accessed 10 August 2016; ‘Qualcomm Says It Won’t Follow New Wi-Fi Rules on Patents’ (Bloomberg, 11 February 2015) www.bloomberg.com/news/articles/2015-02-11/qualcomm-says-new-wi-fi-standard-rules-unfair-may-not-take-part accessed 10 August 2015; Richard Lloyd, ‘The IEEE’s new patent policy one year on – the battle that’s part of a bigger licensing war’, IAM (6 May 2016) <<http://www.iam-media.com/blog/detail.aspx?g=e8f72d6e-a3f8-45d8-882f-3ebdd3a1d69e>> accessed 10 August 2016.

¹²⁷See also n 74 and accompanying text.

Condition (4) of the safe harbour refers to access to the standard on FRAND terms. This aspect is obviously a crucial focus of the Policy Update, which aims to ensure access to FRAND-committed SEPs by depriving SEP owners of the unconditional right to seek an injunction, and setting out a methodological basis for the calculation of FRAND. The relevant question is whether these changes contribute to making the resulting Policy clear *and* balanced, adapted to the needs of the industry and the IEEE. While the concerns behind the Policy Update were dictated by the concerns of uncertainty and rising litigation in the sector (ICT) most affected by IEEE standards,¹²⁸ the IEEE did not provide evidence of a pathological situation¹²⁹ warranting such drastic changes to the existing patent policy. Since

¹²⁸See, *inter alia*, Konstantinos Karachalios (n 11); Request for BLR (n 11); and Renata Hesse's speech (n 66).

¹²⁹To the contrary, many sources support the contrary position: see eg Reply Submission on the Public Interest of Federal Trade Commissioners Maureen K. Ohlhausen and Joshua D. Wright – In the Matter of Certain 3G Mobile Handsets and Components Thereof – U.S. International Trade Commission (July 2015) <https://www.ftc.gov/system/files/documents/public_statements/685811/150720itcreplyohlhausen-wright.pdf> accessed 8 August 2016; Alexander Galetovic, Stephen Haber and Ross Levine, 'An Empirical Examination of Patent Hold-Up' (2015) 11 *Journal of Competition Law and Economics* 5 (1); J Gregory Sidak, 'The Antitrust Division's Devaluation of Standard-Essential Patents' (n 13); J Gregory Sidak, 'The Meaning of FRAND, Part II: Injunctions' (2015) 11 *Journal of Competition Law and Economics* 201; Anne Layne-Farrar, 'Patent Holdup And Royalty Stacking Theory and Evidence: Where Do We Stand After 15 Years of History?' (December 2014), Submission for Item VII of the 122nd meeting of the OECD Competition Committee on 17–18 December 2014 <<http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DAF/COMP/WD%282014%2984&doclanguage=en>> accessed 8 August 2016; Joshua D. Wright and Douglas H. Ginsburg, 'Patent Assertion Entities and Antitrust: A Competition Cure for a Litigation Disease' (2014) 79 *Antitrust Law Journal* 501; Kirti Gupta and Mark Snyder (n 9); J. Gregory Sidak, 'The Meaning of FRAND, Part I: Royalties' (2013) 9 *Journal of Competition Law and Economics* 931; Roger G. Brooks, 'SSO Rules, Standardization, and SEP Licensing: Economic Questions from the Trenches' (2013) 9 *Journal of Competition Law and Economics* 859; Kirti Gupta, 'The Patent Policy Debate in the High-Tech World' (2013) 9 *Journal of Competition Law and Economics* 827; Sir Robin Jacob, 'Competition Authorities Support Grasshoppers: Competition Law as a Threat to Innovation', 9 (2013) *Competition Policy International* 15; James Ratliff and Daniel L. Rubinfeld, 'The Use and Threat of Injunctions in the RAND Context' (2013) 9 *Journal of Competition Law and Economics* 1; Gregor Langus, Vilen Lipatov and Damien Neven, 'Standard-Essential Patents: Who Is Really Holding Up (and When)?' (2013) 9 *Journal of Competition Law and Economics* 253; Epstein, Kieff and Spulber (n 7); Richard S. Taffet and Hill B. Wellford, 'Questioning the FTC's Incremental Value Test and Claims of Widespread Hold-Up in Technology Standards' (2012) 57 *Antitrust Bulletin* 161; Luke Froeb, Bernhard Ganglmair and Gregory J. Werden, 'Patent Hold-Up and Antitrust: How a Well-Intentioned Rule Could Retard Innovation' (2012) 60 *Journal of Industrial Economics* 249; Mario Mariniello, 'Fair, Reasonable and Non-Discriminatory (FRAND) Terms: A Challenge for Competition Authorities', 7 (2011) *Journal of Competition Law and Economics* 523; Joshua D. Wright and Aubrey N. Stuempfle, 'Patent Holdup, Antitrust, and Innovation: Harness or Noose?' (2010) 61 *Alabama Law Review* 559; Damien Geradin and Miguel Rato, 'FRAND

the Policy Update materially affects the bargaining frontier of SEP holders and improves correspondingly the position of standard implementers, a doubt can be cast as to whether the Patent Policy really reflects a balance between stakeholders.

In sum, the Policy Update appears to preclude the applicability of the safe harbour to any standardization agreement resulting from the implementation of that policy. Accordingly, scrutiny under EU competition law of any future standard produced by the IEEE-SA would require a substantive analysis of its actual or likely welfare effects.

5.2. Analysis under article 101 TFEU of the amendments introduced by the policy update

A substantive analysis of the Policy Update necessarily starts from an appreciation of the potentially anticompetitive object or effect of amendments to IEEE-SA's Patent Policy. As mentioned, the most significant changes of the Policy Update are related to the duty of SEP holders to: (a) grant a licence to any compliant implementation; (b) not seek injunctive relief, except where an implementer fails to participate or comply with the outcome of an adjudication; (c) determine their royalties including consideration of the value of specific elements; (d) not request the cross-licensing of non-SEPs, or patents that are only essential to other standards.

Commitment and EC Competition Law: A Reply to Philippe Chappatte' (2010) 6 *European Competition Journal* 129; Damien Geradin, 'Pricing Abuses by Essential Patent Holders in a Standard-Setting Context: A View from Europe' (2009) 76 *Antitrust Law Journal* 329; Bruce H. Kobayashi and Joshua D. Wright, 'Federalism, Substantive Preemption, and Limits on Antitrust: An Application to Patent Holdup' (2009) 5 *Journal of Competition Law and Economics* 469; J. Gregory Sidak, 'Patent Holdup and Oligopsonistic Collusion in Standard-Setting Organizations' (2009) *Journal of Competition Law and Economics* 5 (1) 123; J Gregory Sidak 'Holdup, Royalty Stacking, and the Presumption of Injunctive Relief for Patent Infringement: A Reply to Lemley and Shapiro', 92 *Minnesota Law Review* 714 (2008); Einer R. Elhauge, 'Do Patent Holdup and Royalty Stacking Lead to Systematically Excessive Royalties?' (2008) 4 *Journal of Competition Law and Economics* 535 (2008); Damien Geradin, Anne Layne-Farrar and Jorge Padilla, 'Competing Away Market Power? An Economic Assessment of Ex Ante Auctions in Standard Setting' (2008) 4 *European Competition Journal* 443; Vincenzo Denicolò, Damien Geradin, Anne Layne-Farrar and Jorge Padilla, 'Revisiting Injunctive Relief: Interpreting eBay in High Tech Industries with Non-Practicing Patent Holders' (2008) 4 *Journal of Competition Law and Economics* 571; John M Golden, 'Patent Trolls and Patent Remedies' (2007) 85 *Texas Law Review* 2111; Damien Geradin and Miguel Rato, 'Can Standard-Setting Lead to Exploitative Abuse? A Dissonant View on Patent Hold-up, Royalty-Stacking and the Meaning of FRAND' (2007) 3 *European Competition Law Journal* 101; Damien Geradin and Miguel Rato, 'Can Standard-Setting Lead to Exploitative Abuse? A Dissonant View on Patent Hold-Up, Royalty Stacking and the Meaning of FRAND' (2007) 3 *European Competition Journal* 101; David J. Teece and Edward F. Sherry, 'Standard Setting and Antitrust' (2003) 87 *Minnesota Law Review* 1913.

5.2.1. “Any” and “smallest saleable” compliant implementation

The major problem for SEP holders stemming from requirements (a) and (c) is that they imply a departure from the traditional licensing practice, where royalties are based on a percentage of the final price of any end-product that implements the standard. This licensing system enables patent holders to appropriate the value brought by their invention(s) to the product in question by demanding that end-product manufacturers royalties are based on a percentage of the final price, rather than the contribution that the patent(s) make(s) to the multiple components constituting that product. There is no question that, by forcing SEP holders to grant licences at all levels of production and mandating the consideration of the value of the SSCI as a royalty base, the Policy Update disrupts the existing licensing practice, generating both transaction and adjustment costs for existing SEP holders.¹³⁰ This disruption also makes it harder to reflect in royalty payments any added value stemming from the integration of different components, which, by contrast under the new Policy must be spread proportionally across the royalty rates of SSCIs. However, the relevant question is whether such disruption results in cognizable competitive harm.

Critics of the new Policy have pointed to the fact that it constitutes a coordinated interference with the price system, allegedly resulting in underinvestment and limiting innovation.¹³¹ So far, only one critique has levied such allegation in the context of EU competition law.¹³² In particular, Petit suggests that IEEE’s attempt to clarify “reasonable” rates may violate article 101 TFEU following an incipency theory, which aims to “nip” anticompetitive behaviour “in the bud”. He bases this argument on his reading of the recent *Bananas* case,¹³³ where the European Court of Justice held that exchange of certain pre-pricing communications constitutes infringement by object, where it is capable of removing uncertainty between participants as to the operation of the market in question.¹³⁴ However, no specific justification is offered for extrapolating from *Bananas* a general prohibition of coordinated action consisting of a (recommended) methodology for *calculation* of the final price, as opposed to *specific* quotation

¹³⁰See in this respect Nicolas Petit, ‘The Smallest Salable Patent-Pricing Unit experiment, general purpose technologies and the Coase theorem’ (February 2016) <http://www.4ipcouncil.com/application/files/8914/5554/8353/SSPPU_rule_GPTs_and_the_Coase_Theorem_-_N_Petit_15_02_16.pdf> accessed 8 August 2016.

¹³¹Sidak, ‘The Antitrust Division’s Devaluation of Standard-Essential Patents’ (n 13); Teece (n 11); Hoffinger (n 11); Marco Lo Bue, ‘Are These Cartels? Price Guidelines Adopted by Standard Setting Organisations (US, Institute of Electrical and Electronics Engineers)’ (2016) 7 (6) *Journal of European Competition Law & Practice*, 367.

¹³²Petit, ‘The IEEE-SA Revised Patent Policy and Its Definition of ‘Reasonable’ Rates’ (n 13).

¹³³Case C-286/13 P – *Dole Food and Dole Fresh Fruit Europe v Commission*, not yet published.

¹³⁴[121–22].

prices exchanged between competitors.¹³⁵ Even accepting an interpretation of the updated Policy to the effect that a “reasonable” royalty *must* be based *inter alia* on the SSCI value and on the contribution of the patent to its functionality, the validity of this as an indicator of price-fixing, either actual or in incipience, is dubious. The Policy demands that negotiations simply factor in the aforementioned values, but says nothing on the multiplier (ie the actual royalty rate) that an SEP holder can charge in relation to those values. The Policy simply forces SEP holders to adopt a common metric, thereby fragmenting the amount of royalties sought across different components, and thus presumably facilitating comparisons and market transparency.¹³⁶ Of course, transparency may also have adverse effects on competition, in a market characterized by price parallelism and exhibiting additional “plus factors” from which the existence of a coordinated conduct can be inferred.¹³⁷ But withdraw those

¹³⁵See the high standard for “by object” infringements indicated by the Guidelines on Horizontal Cooperation, referring to *T-Mobile Netherlands, Case C-8/08, [2009] ECR I-4529 [37]* (where five mobile operators in the Netherlands agreed at a meeting to *reduce* standard dealer remunerations for postpaid subscriptions) and *French Beef, Joined Cases T-217/03 and T-245/03, [2006] ECR II-4987 [84]* (where a cooperative of cattle and slaughterhouses adopted a “recommended” slaughterhouse entry price scale for certain categories of cattle, that was in fact perceived as a *minimum* price scale requirement).

¹³⁶Contrast this type of systemic and one-off coordination with the more episodic and dynamic type of coordination sanctioned by the Commission in the *Air Cargo* cartel decision, where several carriers were found at fault of infringing article 101 TFEU for having adhered to collusive devices facilitating the coordination of commercial behavior. In particular, the Commission took issue with the parties’ ability through these devices to “exchange [...] of information concerning their respective deliveries, which not only covers deliveries already made but *is intended to facilitate constant monitoring* of current deliveries in order to ensure that the cartel is sufficiently effective” (emphasis added). See Case COMP/39258 – *Airfreight*, Commission Decision of 9/11/2010 (published on 8 May 2015) [853]. This decision was subsequently annulled by the General Court, but on different grounds: see Case T-534/11, *Schenker AG v Commission*, ECLI:EU:T:2014:854.

¹³⁷According to Richard Posner, who led the discussion with his seminal article in 1969, “plus factors” include: inelasticity of demand; high entry barriers; market concentration; effective mechanisms of coordinating, monitoring and enforcing coordination (including the possibility to punish deviators); evidence of past performance, such as systematic price discrimination, prolonged excess capacity over demand, infrequent price changes, price leadership, abnormally high profits, fixed market shares over a substantial period time, filing of identical sealed bids on non-standard items, refusal to offer discounts where there is substantial excess capacity, price increase announcements far in advance, and public statements of what the seller considers the right price for the industry to maintain. See Richard Posner, ‘Oligopoly and the Antitrust Laws: A Suggested Approach’, 21 *Stanford Law Review* (1969), 1562. Despite the crucial importance of Posner’s proposal in advancing theory and research on oligopolistic collusion, both legal and economic theory have moved beyond the aforementioned “checklist” approach, retaining only a fraction of the suggested “plus factors” and expanding the list to include strategic considerations. See Europe Economics “Study on assessment criteria for distinguishing between

features,¹³⁸ it appears that critics of the Policy Update have cried the “spectre” of price-fixing without demonstrating a sufficient likelihood that it does materialize. Under these circumstances, it seems inappropriate to place such restrictions into the “object” category. Nevertheless, the qualification of the recommended methodology as a restriction of competition cannot be excluded in light of its potential price suppression effects in the market for a specific standards-enabled product. Ultimately, this assessment depends on the actual impact that the Policy Update will have on licensing practices, specifically the degree to which it is likely to result in lower royalties and reduced innovation in the specific market in question.

5.2.2. Cross-licences

A similar type of problem raised by the Policy Update is its treatment of cross-licensing (requirement (d)), which prevents companies from designing licensing programmes demanding reciprocity for patents unrelated or not essential to the standard in question. The rationale of this provision is clearly one of restricting the ability of SEP holders to leverage their market power into a different market. Furthermore, the fact that this rule pushes SEP holders to indicate royalty-based licensing arrangements for their non-SEPs enhances transparency of their pricing, contributing to creating a more intelligible licensing regime. The criticism against it is, once again, one of disruption of the existing licensing practices – which heavily rely on portfolio cross-licensing to simplify negotiations.¹³⁹ That disruption also increases the likelihood of higher prices downstream as a result of royalty stacking, a phenomenon whereby the royalties of various complementary patents “stack up”, one above the other, potentially raising a barrier to commercialization.¹⁴⁰ This is simply a manifestation of the so called “Cournot complements” problem, according to which the overall price

competitive and dominant oligopolies in merger control”, Report for the European Commission Enterprise Directorate (May 2001) <<http://ec.europa.eu/DocsRoom/documents/2657/attachments/1/translations/en/renditions/pdf>> accessed 8 August 2016; William. E. Kovacic, Robert C. Marshall, Leslie M. Marx, Halbert L. White, ‘Plus Factors and Agreements in Antitrust Law’ (2011) 3 (11) Michigan Law Review 393; Nicolas Petit, ‘The oligopoly problem in EU competition law’, in Ioannis Lianos and Damien Geradin (ed.) *Handbook on European Competition Law* (Edward Elgar 2013).

¹³⁸Petit himself refers to this scenario as a second hypothesis for the application of EU competition law to the IEEE-SA’s Policy, though short of elaborating on the relevant analytical framework. See Petit, ‘The IEEE-SA Revised Patent Policy and Its Definition of ‘Reasonable’ Rates’ (n 11) 16.

¹³⁹Carl Shapiro, ‘Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard Setting’, in Adam B. Jaffe et. Al (ed.) *Innovation policy & the economy* (National Academy of Science, 2001) 119, 132.

¹⁴⁰Damien Geradin, Anne-Layne Farrar and Jorge Padilla, ‘The Complements Problem Within Standard Setting: Assessing The Evidence On Royalty Stacking’ (2008) 14 Boston University Journal of Science & Technology Law 144, 145.

for complementary inputs sold by different firms tends to be higher than the price obtained when those inputs (in this case, patents) are sold by a single firm altogether.¹⁴¹ Cross-licensing solves this problem at least among two firms,¹⁴² by allowing the consolidation of negotiations between holders of complementary patents: the more cross-licensing there is for SEPS of a given standard, the lower it is likely to be the cost for implementers to make standard-compliant products. It follows that the Policy Update may result in higher prices for consumers, or prevent the emergence of potentially innovative products due to the higher production costs incurred by end-product manufacturers. However, it should be noted that the impact of this amended rule is limited, since (as noted by the DoJ)¹⁴³ it leaves parties free to voluntarily negotiate broader portfolio cross-licences. In practice, one can expect such requests to become the subject of routine bilateral negotiations, instead of a mandatory condition of a predefined “licensing programme”. Once again, the actual effect of the updated Policy depends on the extent to which licensing practices will effectively change the negotiating strategies of SEP holders.

5.2.3. *Injunctive relief*

The third type of problem raised by the Policy Update is the interference in the balance of power of negotiations between SEP holders and standard implementers by limiting the availability of injunctive relief. Specifically, requirement (b) deprives SEP holders of the ability to seek such relief except in very limited (above-mentioned¹⁴⁴) exceptional circumstances. By transforming SEP entitlements from a “property” into a “liability” rule,¹⁴⁵ this amendment reduces the bargaining power of SEP holders *vis a vis* implementers, who in turn remain free to use the “threat” of an infringement, validity, or essentiality challenge as a bargaining chip to obtain lower royalty rates.¹⁴⁶ Considering the probabilistic nature of patents,¹⁴⁷ it is but logical to expect that patent owners will decrease the rates they seek from implementers in order to minimize the chances that negotiations

¹⁴¹Augustin Cournot, *Researches Into the Mathematical Principles of the Theory of Wealth* (Nathaniel T. Bacon trans., The Macmillan Co 1985) (1838).

¹⁴²Carl Shapiro (n 137) 130.

¹⁴³Business Review Letter (n 12) 4.

¹⁴⁴See beginning of section 4.1.

¹⁴⁵Guido Calabresi and A Douglas Melamed, ‘Property Rules, Liability Rules, and Inalienability: One View of the Cathedral’ (1972) 85 *Harvard Law Review*, 1089.

¹⁴⁶Pierre Larouche and Nicolo Zingales, ‘Injunctive Relief in Disputes Related to Standard-Essential Patents: Time for the CJEU to Set Fair and Reasonable Presumptions’ (2014) 10 *European Competition Journal* 551, 592–93.

¹⁴⁷The term “probabilistic” refers to the fact that patents are significantly affected by uncertainty about (1) the commercial significance of the invention being patented, and (2) the validity and scope of the legal right being granted. See Mark Lemley and Carl Shapiro, ‘Probabilistic Patents’ (2005) 19 (2) *Journal of Economic Perspectives*, 75.

turn into a costly litigation or arbitration process. This measure is therefore likely to materially affect the royalty rate, and conceivably result in a reduction of investment and innovation. That effect is compounded by the prohibition imposed by the new Policy to base royalty rates on past licences, where such licences were obtained under the (explicit or implicit) threat of an injunction.¹⁴⁸

It should also be noted that, contrary to the DoJ's assessment of US law, this aspect of the Policy is significantly more restrictive than the current state of EU competition law. As clarified by the recent judgment of the Court of Justice of the EU in *Huawei v ZTE*,¹⁴⁹ SEP holders do not incur antitrust liability for seeking injunctive relief as long as they have alerted a potential licensee of an alleged infringement and presented written offer for a licence on FRAND terms. This safe harbour is not available under the Policy, which accordingly incentivizes SEP holders to obtain negotiated solutions by demanding lower royalties than those they would otherwise request – and thus adversely impacting their incentives to innovate. Although upholding this conclusion would require a court or the Commission to apply a somewhat consequentialist reasoning, it is not difficult to imagine it being supported by evidence of declining SEP royalties and slower pace of technological innovation. While that empirical assessment can be left for future research or specific case analysis, suffices it to say that this particular amendment of the Policy may under certain circumstances be considered a restriction by effect under article 101 TFEU.

5.3. Ancillarity

Despite any potential anticompetitive effect, the updated Policy may escape article 101 TFEU to the extent that any restrictions of competition it imposes are “ancillary”, ie objectively necessary to the pursuit of a legitimate aim. This concept has been integral part of EU competition law since early cases such as *Societe' Technique Miniere v Mascinenabau Ulm*, where the Court held that an exclusive licence to a distributor does not infringe article 101 (1) to the extent that it is “really necessary for the penetration of a new area by an undertaking”.¹⁵⁰ The issue of necessity was also central in evaluating the arrangement of exclusive licensing to intellectual property in *Nungesser*¹⁵¹ and *Coditel*,¹⁵² both revolving around the determination of whether the exclusivity granted by the agreements in question was proportionate to attract sufficient investment.

¹⁴⁸See Patent Policy, sec 6.1, definition of “Reasonable Rate”.

¹⁴⁹Case C-170/13, 16 July 2015 – *Huawei Technologies Co. Ltd v ZTE Corp* (not yet published).

¹⁵⁰Case 56/65, *Société Technique Minière v Maschinenbau Ulm* [1966] ECR 235, at 250.

¹⁵¹Case 258/78, *Nungesser KG and Kurt Eisele v Commission* [1982] ECR 2015.

¹⁵²Case 262/81, *Coditel SA v Cine Vog Films SA* (No 2) [1982] [2001] ECR II-02459.

Yet the first explicit recognition of the doctrine occurred in *Metropole Television v Commission*,¹⁵³ where the General Court extrapolated from its guidelines for the assessment of joint ventures (and in particular, the notices on ancillary restrictions¹⁵⁴ and on joint ventures¹⁵⁵), the rule that “ancillary restraints” refers to those that are “necessary” to implement a given operation.¹⁵⁶ Specifically, the evaluation of “necessity” cannot imply an assessment, in the light of the competitive situation on the relevant market, of whether the restriction is indispensable to the *commercial success* of the main operation,¹⁵⁷ or the establishment of the undertaking on the market on a long-term basis.¹⁵⁸ In other words, indispensability cannot be used to justify restrictions that serve to secure profits going beyond mere commercial viability. This rigid approach to the interpretation of necessity was confirmed by the recent judgment in *MasterCard v Commission*, where the Court held that the mere fact that the operation is more difficult to implement without the restriction, or even less profitable, is not sufficient to claim “objective necessity”.¹⁵⁹ What this strict necessity test implies for the restrictions imposed by the Policy Update is that any justification under the ancillarity doctrine would need to overcome an extremely demanding test. While it can be admitted that certain rules of SSOs (such as FRAND commitments and good faith disclosure of IP) might qualify as necessary safeguards for the existence of a standardization agreement in the market in question, the key question to be addressed is whether any of the features introduced by the new Policy would be required for the conduct of standard-setting. Given the successful operation of the IEEE-SA under its previous Patent Policy, this defence is not likely to be a sufficient obstacle to any possible challenge of the Policy Update.

There is however another possible line of “ancillarity” defence which could grant the IEEE-SA more leeway in the adoption of its policy. Whereas the majority of cases referred to a notion of ancillarity based on necessity for a commercial transaction, a few of them revolved around necessity for the fulfilment of a so-called “regulatory” function entrusted to a particular private entity. In

¹⁵³Case T-112/99 *Métropole télévision (M6), Suez-Lyonnaise des eaux, France Télécom and Télévision française 1 SA (TF1) v Commission of the European Communities* [2001] ECR II-02459.

¹⁵⁴Commission Notice on restrictions directly related and necessary to concentrations, OJ 2005 C 56, 05.03.2005, 24-31.

¹⁵⁵Notice on the concept of full-function joint ventures OJ C 66, 02.03.1998, 1.

¹⁵⁶[109].

¹⁵⁷[115].

¹⁵⁸*Metropole* (n 153) [120].

¹⁵⁹Case C-382/12, *MasterCard Inc. and Others v European Commission* (not yet published) [91]. Note that this seems to overrule the standard proposed by the Commission in its Guidelines, which refers to *difficulty* in implementation of the non-restrictive transaction as a valid basis for ancillarity claims. See 101 (3) Guidelines [31] (emphasis added).

Wouters,¹⁶⁰ the Court developed this doctrine for the first time answering a preliminary reference concerning the compatibility with article 101 (1) TFEU (then art 85 (1) of the EC Treaty) of a decision by the legal bar association to prohibit multi-disciplinary partnerships (in particular, between lawyer and accountants). The Court ruled that to determine the compatibility with article 101 (1), account must be taken of the objectives pursued by the decision of the association, which it found to be connected

with the need to make rules relating to organization, qualifications, professional ethics, supervision and liability, in order to ensure that the ultimate consumer of legal services and the sound administration of justice are provided with the necessary guarantees in relation to integrity and experience.¹⁶¹

It also noted that the applicable legal framework entrusted the Bar of the Netherlands with responsibility for adopting regulations designed to ensure the proper practice of the profession, and that the decision in question did not go beyond what was necessary to achieve that objective.¹⁶² In a nutshell, the Court seemed to imply that this particular notion of ancillarity would apply when a private body: (a) is acting for the pursuit of the public interest; and (b) derives its powers from public law. Subsequent judgments have confirmed this ancillarity doctrine for other private bodies with public law origin, such as the Portuguese Order of Chartered Accountants (*Oficiais de Conta*),¹⁶³ the Association of Italian Geologists (*Italian Geologists*)¹⁶⁴ and the Italian Observatory for road traffic safety and social security (*Consulta generale per l'autotrasporto e la logistica*).¹⁶⁵ Interestingly for possible appeal to this doctrine by the IEEE, the notion has been extended to regulatory bodies recognized by international law, such as the International Olympic Committee (*Meca Medina*).¹⁶⁶ However, it remains controversial whether such doctrine can be invoked by private organizations that have *not* been officially entrusted with authority by either the State or the

¹⁶⁰Case C-309/99 *Wouters and others v Algemene Raad van de Nederlandse Orde van Advocaten* [2002] ECR I-1577.

¹⁶¹[97].

¹⁶²In this specific case, proper practice of the profession was ensured by preserving the ability of lawyers to satisfy the professional requirements of independence and strict professional secrecy, not imposed to accountants to a comparable degree. See [103].

¹⁶³Case C-1/12 *Ordem dos Técnicos Oficiais de Contas v Autoridade da Concorrência* [2013] 4 CMLR 20.

¹⁶⁴Case C-136/12, *Consiglio nazionale dei geologi v Autorità garante della concorrenza e del mercato and Autorità garante della concorrenza e del mercato v Consiglio nazionale dei geologi* [2013] 5 CMLR 40.

¹⁶⁵Joined Cases C-184/13 to C-187/13, C-194/13, C-195/13 and C-208/13, *API – Anonima Petroli Italiana SpA* not yet reported.

¹⁶⁶Case C 519/04 P., *David Meca-Medina and Igor Majcen v Commission of the European Communities* [2006] ECR I-06991.

international community.¹⁶⁷ The ECJ ruling in *Slovak Banks*¹⁶⁸ seems to suggest that this cannot be the case, in reasserting EU competition law's view that it is for public authorities, and not private undertakings, to ensure compliance with statutory requirements.¹⁶⁹ This would seem to apply *a fortiori* where undertakings appeal to the pursuit of self-proclaimed public interests in order to take actions which amount to an infringement of competition law.

In short, the challenge for a regulatory ancillarity defence in this context is to establish its application to hybrid bodies, like SSOs, that are neither public in origin (not having been officially created or recognized by law) nor in nature (its membership being constituted predominantly by private entities), but whose mission is to serve the public interest.¹⁷⁰ While a tenuous argument could be made that the conferral of authority to IEEE's standards by its accreditation as an American Standard Developer,¹⁷¹ constitutes an informal delegation of power,¹⁷² the applicability of the defence appears to be in any case jeopardized by the breach of the specific principles under which such delegated activity was supposed to take place: namely, the ANSI requirements and the overarching principles of the IEEE.

5.4. Efficiency

If the Policy is found to fall within the scope of article 101 (1), this does not necessarily lead to a violation of EU competition law. A restriction can be justified pursuant to article 101 (3) if the agreement, decision or concerted practice contributes to improving the production or distribution of goods or to promoting technical or economic progress (1), while allowing consumers to get a fair share of the

¹⁶⁷In this sense, see Richard Wish and David Bailey, *Competition Law* (5th ed., Oxford University Press 2015) 141. Cf Katarina Pijetlovic, *EU Sports Law and Breakaway Leagues in Football* (Springer, 2015) 153–54.

¹⁶⁸Case C-68/12, *Protimonopolný úrad Slovenskej republiky v Slovenská sporiteľňa a.s.*, EU:C:2013:71 [20].

¹⁶⁹See, in the context of unilateral conduct, Case T-30/89 *Hilti v Commission* [1991] ECR II-1439 [118–19]; See also Case T-83/91 *Tetra Pak International v Commission (Tetra Pak II)* [1994] ECR II-755 [83], [84] and [138].

¹⁷⁰See n 37. See also “IEEE Standards and the Law. What You Need to Know”, available on IEEE's website at <<http://standards.ieee.org/develop/policies/stdslaw.pdf>> accessed 15 September 2016, according to which “IEEE is a Section 501(c)(3) tax-exempt organization as defined by the United States Tax Code. As such, IEEE is obligated to serve the public good through its educational and scientific endeavours [...] Standards benefit the public in part by advancing technology and enabling competition. Therefore, IEEE standards participants need to follow certain guidelines in order to maintain the Section 501(c)(3) status of IEEE”. The document refers to the principles of Openness, Due Process, Balance, Right of Appeal and Consensus, which are largely overlapping with the ANSI requirements and the TBT Code of Good Practice.

¹⁷¹See n 41.

¹⁷²See NTTAA (n 42).

resulting benefit (2), and neither it imposes on the undertakings concerned restrictions which are not indispensable to the attainment of these objective (3), nor it leads to competition being eliminated in a substantial part of the market (4). Were article 101 (3) to be invoked in the context of a challenge to the Policy Update, there would appear to be little difficulty in satisfying the first prong of its test: the Policy Update *does* contribute to an improvement in the production of goods, in particular those products requiring the use of standards and SEPs, as it provides greater clarity and transparency with regard to the rules applicable to SEP claims.

Each of the four described amendments of the Policy seem to fare well under this prong, either improving production or even promoting technical and economic progress, thanks to the multiplier effect of standardization.

First, the rule mandating licensing to any compliant implementation opens up the market of component parts, which may drive down prices for standardized products and increase the possibilities for consumers to seek replacement of any such relevant part (as opposed to buying a whole new end-product) in case of failure or malfunctioning. The benefit would also easily satisfy the second prong of the test, given the immediate gain for final consumers of the final products.

As to the second element, the rule concerning the royalty base formulation has the value of providing a focal point for negotiation, thereby making cost savings which could ultimately flow to the benefit of consumers in the form of lower prices and increased quality or innovation (to the satisfaction of the second prong).

The third element, that is the rule prohibiting SEP holders to seek injunctions before adjudication, serves to prevent opportunistic rent-seeking (through the threat of injunctions) by depriving SEP holders of an “outside option” from the negotiations table. This facilitates or even accelerates standards adoption, thus providing a benefit to technological progress and the production of goods; and it is reasonable to expect a quick transfer of the benefit to final consumers, although also likely negative long-term consequences for innovation.

Fourth and finally, the rule prohibiting bundled cross-licensing preserves the autonomy and subsistence of implementers (particularly small and medium sized ones) in the relevant technology market, by enabling their implementation of the standard without incurring the costs of patents, which may be substitute for their own technology. Only the passing-on element may be less evident here, as the rule merely protects the interests of implementers, which does not necessarily translate into a benefit for consumers downstream. To the contrary, it might actually result in higher prices and reduced innovation due to royalty stacking.

When it comes to indispensability (the third prong), it is important to note that, although the test of article 101 (3) appears on its face as demanding as article 101 (1), the Commission has suggested a more flexible interpretation, by referring to any restriction being “reasonably necessary” for the efficiency in question.¹⁷³

¹⁷³[73].

Importantly, the focus of this analysis is not whether in the absence of the restriction the agreement would not have been concluded (as in the case of ancillarity), but rather whether more efficiencies are produced with the agreement or restriction than in the absence of the agreement or restriction.¹⁷⁴ According to the Commission, counterfactuals offered by the undertakings will be readily accepted, unless it is *reasonably clear* that there are realistic and attainable alternatives.¹⁷⁵ In principle, this seems to militate in favour of a sufficient flexibility of article 101 (3) to legitimize the pursuit of the general goal of the Policy Update: to provide clarity and transparency. However, it seems particularly difficult to justify the forced renunciation of injunctive relief (prior to final adjudication) as the least restrictive alternative: if the desired effect was to provide limits against opportunistic use of injunctions, that could also be achieved, for example, by establishing a “safe harbour” framework similar to the one developed by the *ECJ* in *Huawei*,¹⁷⁶ or the Commission in *Samsung*.¹⁷⁷ This type of measure was both realistic and attainable within the IEEE-SA, and would have been significantly less impactful on the bargaining position of SEP holders, and their ability to recoup investments.

The final question for the application of article 101 (3) is whether the Policy Update is likely to lead to the elimination of competition in respect of a substantial part of the products concerned. Answering this question requires an appreciation of the sources of competition, which will vary depending on the goods affected by standardization, including the intellectual property involved.¹⁷⁸ As the new Policy may affect competition between technology providers for inclusion in a standard, one can expect the market(s) for technology (ie the relevant patents) to be significantly impacted. In this regard, the Guidelines make clear that competition in the technology market would be carefully assessed if it appears that an agreement may lead to the exclusion of valid alternative technology.¹⁷⁹ An efficiency defence is therefore unlikely to succeed if the price suppression effect drives out of IEEE standardization a sufficient number of industry players with important technology portfolios, as it appears the opposing declarations made by major SEP contributors such as Qualcomm, Nokia and Ericsson¹⁸⁰ following approval of the Policy

¹⁷⁴[74].

¹⁷⁵[75] (emphasis added).

¹⁷⁶See in particular [60–69].

¹⁷⁷*Samsung – Enforcement of UMTS standard essential patents* (Case AT.39939) Commission Decision C (2014) 2891 final.

¹⁷⁸The Guidelines distinguish four possible types of relevant markets that may be impacted by standardization agreements (the market for the product or services to which the standard or standards relates; the relevant technology market; the market for standard-setting; and the market for testing and certification). Guidelines [261]. Only the second type (relevant technology market) is relevant to this theoretical analysis of the Policy Update.

¹⁷⁹[120].

¹⁸⁰See Susan Decker and Ian King, ‘Qualcomm Says It Won’t Follow New Wi-Fi Rules on Patents’ Bloomberg Technology (11 February 2015) <www.bloomberg.com/news/articles/2015-02-11/qualcomm-says-new-wi-fi-standard-rules-unfair-may-not-take-part> accessed

Update. Unsurprisingly, this trend is reflected in a sharply declining number of LOAs submitted in the year following adoption of the new Policy.¹⁸¹

6. Conclusion

This paper sought to examine the legality of the recent IEEE-SA Patent Policy Update under EU competition law. Despite the complexity and specificity of the assessment that would be required for each standard developed under the revised Policy, it has been possible to conduct a generalized assessment with regard to the amendments introduced by the Policy Update, and specifically their likely impact on the technology market. This assessment was grounded on the recognition that the Policy constitutes an integral part of future standardization agreements within the IEEE, and therefore can be analysed as such, under the framework defined by the European Commission in its Guidelines on Horizontal Cooperation.

The Guidelines offer a “safe harbour” to shield these important agreements from potential antitrust liability under specific conditions. However, unlike traditional standard-setting activity in the IEEE-SA, the process followed for the introduction of amendments of the Policy Update fails to meet those conditions, particularly in view of its deficiencies in terms of transparency and consensus. While the IEEE-SA ensures equality of stakeholders and openness of standard-setting procedures, limited participation and procedural omissions in the course of policy-development prevented the IEEE-SA from establishing a balanced Patent Policy, thereby precluding the application of the “safe harbour” to standardization agreements concluded on the basis of the revised Policy.

This ineligibility for safe harbour opens up the possibility for undertakings adversely affected by IEEE standard-setting to use article 101 TFEU in order to invalidate an adopted standard, and impose liability on the IEEE-SA members involved in its development. The prospect of success for such claims was assessed under a four-step analytical framework.

First, it was established that the amendments introduced by the policy do not give rise to an infringement “by object”, at least in the absence of additional

10 August 2016; ‘Qualcomm Says It Won’t Follow New Wi-Fi Rules on Patents’ (Bloomberg, 11 February 2015) <www.bloomberg.com/news/articles/2015-02-11/qualcomm-says-new-wi-fi-standard-rules-unfair-may-not-take-part> accessed 10 August 2015; Richard Lloyd, ‘The IEEE’s new patent policy one year on – the battle that’s part of a bigger licensing war’, IAM (6 May 2016) <<http://www.iam-media.com/blog/detail.aspx?g=e8f72d6e-a3f8-45d8-882f-3ebdd3a1d69e>> accessed 10 August 2016.

¹⁸¹See Ron Katznelson, ‘Decline in non-duplicate licensing Letters of Assurance (LOAs) from Product/System companies for IEEE standards’, Presentation at IEEE GLOBECOM, San Diego (December 2015) <<https://works.bepress.com/rkatznelson/80/>> accessed 10 August 2016. Katznelson documents a steep decline in Letter of Assurances submitted by product/system companies after March 2015.

elements indicating the existence of collusion. This means that the outcome of the article 101 TFEU analysis will depend significantly on the circumstances affecting the standard and the market in question.

Secondly, a preliminary assessment suggested that certain amendments have in themselves the potential to raise competitive concerns, in particular for the effects that they may have on licensing royalties, and ultimately on SEP holders' incentives to innovate.

Thirdly, it was shown that the introduced amendments are unlikely to be seen as necessary to the pursuit of standard-setting activity, in light of the stringency of the commercial ancillarity test and the failure by the IEEE-SA to fulfil the conditions for application of the regulatory ancillarity doctrine. In particular, it is highly questionable that the deprivation of SEP holders from injunctions be strictly required for the existence of an SSO, and it is hard to claim that the IEEE-SA acted in the public interest when it violated the principles under which its activities are supposed to take place.¹⁸²

Fourth and finally, a tentative application of article 101.3 to the amendments that produced ambivalent results, depending primarily on the fulfilment of its fourth condition: ie whether the agreement leads to the elimination of competition in a substantial part of the common market. Critical to that determination is the significance of the technology portfolios of the industry players that have denounced the new Policy, and refused to submit LOAs for participation in future IEEE standardization. Since the patent policy is not severable from the main standardization agreement, an affirmative answer would lead to a condemnation of undertakings involved in the standard-setting, as well as the IEEE for having facilitated coordination necessary for the achievement of any identified anticompetitive effects.

All in all, this analysis showed that the patent policy of SSOs is a delicate matter, involving a careful balance between its incentivizing and prophylactic functions. SSOs are advised to seek that balance by keeping obligations on SEP holders within reasonable limits, in particular ensuring that any such obligations be either the result of solid consensus between SSO members, or demonstrably necessary for the conduct of standard-setting. If on the one hand it is logical for SSOs to seek to offer their members protection against widespread concerns in the industry, it is also important to prevent the use of the standard-setting framework for redistribution between winners and losers in the risky and uncertain process of technological innovation.¹⁸³

¹⁸²Such as the procedures of the IEEE, the ANSI requirements and the TBT Code of Good practice. See n 56–59 and corresponding text.

¹⁸³See in this sense also CEN-CENELEC's position paper 'Standard Essential Patents and Fair, Reasonable and Non-Discriminatory Commitments' (September 2016) <http://www.cencenelec.eu/News/Policy_Opinions/PolicyOpinions/EssentialPatents.pdf> accessed 15 September 2016, p 14.

Disclosure statement

No potential conflict of interest was reported by the authors.

Appendix 1. Scheme procedure of IEEE-SA 2015 patent policy update

