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Standardization Agreements, Intellectual Property Rights and Anti-competitive Concerns

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The relationship between standardization processes, intellectual property rights and competition rules has increasingly become of interest in the recent years. Recent investigations of the European Commission confirm that standardization processes and in particular ownership of IPRs that cover standardized technology might in certain circumstances infringe competition rules.

The article first explores the meaning and different forms of standardization. It then analyses selected parts of the Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements, in particular those parts that cover standardisation agreements. The Guidelines have been adopted by the Commission in December 2010 with a view to addressing the anti-competitive concerns stemming from inter alia standardisation agreements (eg, they encourage IPRs holders to disclose their exclusive rights before the adoption of the standard, as well as to give an irrevocable commitment to offer to license the IPR to all parties interested on a fair, reasonable and non-discriminatory terms: so-called FRAND commitment).

The author will then present and comment on different points of view on whether the ownership of IPRs which cover standardized technologies really create market dominance capable of triggering anti-competitive behaviours. Finally, a set of additional solutions proposed by various legal scholars will be highlighted and commented.

1. Introduction

The relationship between standardisation processes, intellectual property rights (IPRs) and competition rules has increasingly become of interest in the past years. Such interest has recently been invigorated in Europe by the activity of the European Commission.

In particular, on 13 February 2012 the Commission authorised the takeover by Google of the company Motorola. The proposed acquisition had been notified to the EU institution under Article 4 Regulation 139/2004 (the Merger Regulation). The involvement of the Commission has been necessary since as a consequence of the deal Google has acquired roughly 8,000 patents from Motorola, such patents mainly focusing on wireless communication hardware and high-definition television. A number of these patents are standard essential patents ("SEPs"), ie they cover standardised technology.

A few weeks before releasing said decision, on 16 December 2011 the Commission had started proceedings against Honeywell to examine alleged anti-competitive practices with reference to the development of a new refrigerant for air conditioning systems in cars. The Commission fears that in the context of the standardisation process Honeywell failed to disclose its patents and patent applications while the refrigerant was being assessed and later failed to grant licenses on fair, reasonable and non-discriminatory terms. Subsequently on 30 January 2012 the Commission started a formal investigation against the mobile manufacturer Samsung. Indeed, the latter had recently asked for and enforced injunctions against competitors in several countries, including

some EU Member States, claiming infringements of its UMTS-related SEPs¹. This behavior, stressed the Commission, might constitute abuse of dominant position under Article 102 of the Treaty on the Functioning of the European Union. Then, on 3 April 2012 the Commission opened two other investigations against Motorola in relation to similar allegedly anti-competitive behaviours².

These recent moves from the Commission confirm its fear that standardisation processes and in particular ownership of IPRs that cover standardized technology, might in certain circumstances infringe competition rules. It is therefore interesting to analyse first the meaning and different forms of standardisation and then the Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements³, which also cover standardisation agreements. The Guidelines have been adopted by the Commission in December 2010 with a view to addressing the anti-competitive concerns stemming from *inter alia* standardisation agreements (in particular, they encourage IPRs holders to disclose their exclusive rights before the adoption of the standard as well as to give an irrevocable commitment to offer to license the IPR to all parties interested on a fair, reasonable and non-discriminatory terms: so-called FRAND commitment). The author will then present and comment on different points of view on whether the ownership of IPRs, which cover standardised technologies really create market dominance capable of triggering anti-competitive behaviours. Finally, a set of additional solutions proposed by various legal scholars will be highlighted and commented.

2. Standardisation: benefits and concerns

Standardisation aims at defining technical, quality, safety or health related specifications with which current or future products, manufacturing processes or services should comply⁴. Of particular importance are the standards on the environmental compatibility of goods or manufacturing processes⁵.

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¹ UMTS stands for Universal Mobile Telecommunications System, the third generation mobile cellular technology for networks based on the GSM standard.

² It should also be noted that on 31 May 2012 Google filed a complain with the Commission claiming that Microsoft and Nokia colluded with other companies to avoid promises both companies had made that they would license their standard essential patents on fair, reasonable and non-discriminatory conditions.

³ Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements (Official Journal C 11 of 14.1.2011).

⁴ See also Recital 1 of the Proposal for a Regulation of the European Parliament and of the Council on European Standardisation and amending Council Directives 89/686/EEC and 93/15/EEC and Directives 94/9/EC, 94/25/EC, 95/16/EC, 97/23/EC, 98/34/EC, 2004/22/EC, 2007/23/EC, 2009/105/EC and 2009/23/EC of the European Parliament and of the Council.

⁵ For a non exhaustive list of standards in different sectors see Mark MacCarthy, “Open Standards, Competition and Patent Policies”, unpublished Manuscript, July 2009, p. 1 (available at <http://explore.georgetown.edu/publications/43082>, last accessed on 15 June 2012). For a comprehensive overview of the economic aspects of standardization (which remain outside the scope of this article) see Knut Blind, *The Economics of Standards, Theory, Evidence, Policy*, Edward Elgar, 2004 (proposing a variety of interesting empirical analyses which reveal the driving forces and economic justification for standards).

Standardisation can take various forms. First, a product or some technical specifications may become *de facto* standards as a consequence of wide adoption by many players of a certain market: in such a case it is market dynamics which transform a product or technology into a standard⁶. Secondly, governments and other public bodies such as EU institutions can adopt legislation that provides that certain goods or technologies must comply with given standards. EU-wide standards, in particular, boost the internal market by permitting companies and traders to sell their goods and services in all the Member States⁷. Such standards are called “legal standards”. Thirdly, private organizations grouping together various market players can (formally or less formally) co-operate and commonly develop standards. These organizations are known as “standard setting organizations” (SSOs) and adopt procedures and policies that govern the standardisation processes. Such policies and procedures aim at choosing the most appropriate technology as standard, based on technical merit and other relevant aspects. Even if these organisations are private, it has been noted that their nature is often “quasi-legislative”⁸. EU bodies, for example, can mandate a certain SSO to develop a specific standard and use the latter as a basis for regulation⁹. The present paper will focus on this latter category of standardisation processes.

Standardisation is highly beneficial. It can secure efficiency gains and benefit consumers, by allowing manufacturers to increase the overall size of the markets and thus achieve economies of scale as well as to increase products substitutability. Standardisation is particularly important in the information and communication technology (ICT) field. Indeed, in this sector, more than in other fields, devices and services manufactured by different companies must be able to communicate with each other in order to work¹⁰. Standards are a necessary tool to promote such inter-operability (these are known as “interface standards”)¹¹. By ensuring that the goods produced by different companies are compatible and interoperable, standardisation increases

⁶ Mark A. Lemley, “Intellectual Property Rights and Standard-Setting Organizations”, 90 *California Law Review*, pp. 1896-1899 (noting that the Microsoft operating systems are *de facto* standards as no organization formally chose them but they have been *de facto* adopted by the market in light of their commercial success).

⁷ See also para 308 Guidelines.

⁸ Damien Geradin - Miguel Rato, “Can Standard-Setting lead to Exploitative Abuse? A dissonant View on Patent Hold-Up, Royalty Stacking and the Meaning of FRAND”, April 2006, p. 4 (available at <http://ssrn.com/abstract=946792>, last accessed on 15 June 2012).

⁹ Rudi Bekkers – Isabelle Liotard, “European Standards for Mobile Communications: The Tense Relationship between Standards and Intellectual Property Rights” (1999) *European Intellectual Property Review*, p. 115.

¹⁰ In this sector integration of previously disparate products has become more and more important. Take the case of smart-phones, which include various products and services (web browsers, music players, cameras, etc.) offered by different companies. See Rudi Bekkers – Christian Catalini – Arianna Martinelli – Timothy Simcoe, *Intellectual Property Disclosure in Standards Development*, paper prepared for the NBER conference on Standards, Patents & Innovation, Tucson (AZ), January 20 and 21, 2012 (available at <http://cis.ier.hit-u.ac.jp/Japanese/society/120412houtokeizai/Martinelli.pdf>, last accessed on 12 May 2012), p. 14

¹¹ See Lemley, above note 6, pp. 1893 and 1896 (interestingly noting that “telephones talk to each other, the Internet works, and hairdryers plug into electrical sockets because private groups have set ‘interface’ standards, allowing compatibility between products made by different manufacturers” and that “without this standardization, no one could stay in a hotel room and have any confidence that his hair dryer would work in the hotel’s outlet”).

consumers' choices and reduces prices. More fungibility of different manufacturers' goods is also triggered, which can drive prices further down.

The benefits standardization, and in particular interface standardization, may bring have been brilliantly summarized by Carl Shapiro. This author recalls that "during the great Baltimore fire of 1904, fire fighters called in from neighboring cities were unable to fight the blaze effectively because their hoses would not fit the Baltimore hydrants. The following year, national standards for fire hoses were adopted"¹².

Standardisation however, may also cause negative externalities. Indeed, it reduces the number of formats and variations available. It follows that, once a standard has been adopted, companies that have previously used and massively invested on a different technology may face a barrier to entry and thus be excluded from the relevant market¹³. Standards can thus be manipulated to exclude the products of competitors from the market. Standard-setting activities might also facilitate the creation of cartels, eg when the participants fix prices of end-products or agree to limit output or restrict sales¹⁴. Thus, standardisation processes might dangerously cause both "exclusion" and "collusion".

Moreover, when patents or other IPRs are obtained which cover standards¹⁵, further concerns may arise. This is even more so in the ICT field, which has recently witnessed an increase in the number of patents covering software-related inventions and business methods. There is indeed a conceptual tension between IPRs (which offer their owners monopolistic rights and are destined for private and exclusive use¹⁶) and standards (intended instead for widespread and collective use). The intellectual property, and in particular patent, protection of standardised technology allow IPRs owners to prohibit third parties to use such technology, turning the standard from an "open" into a "close" standard¹⁷. Owners of standard essential IPRs can thus be given a market power that in certain circumstances might be abused or lead to restrictive practices. This is particularly true in case of complex products that include many IPRs-protected standards, eg ICT products such as smart-phones incorporating a camera, a video, a web browser, wireless, text messages, etc. In these cases standards are subject to overlapping IPRs protection: if even a small

¹² Carl Shapiro, "Setting Compatibility Standards: Cooperation or Collusion?", in Rochelle Dreyfuss - Diane Zimmerman – Harry First, Eds, "Expanding the Bounds of Intellectual Property", OUP 2011, Section 1.

¹³ Emma Johansson, "Assessment of Standardization Agreements under the Revised Guidelines on Horizontal Cooperation Agreements", 18 Columbia Journal of European Law, L.F. 17 (2011), available at http://www.cjel.net/online/18_1-johansson (last accessed on 12 May 2012).

¹⁴ Marcus Glader, "Open Standards: Public Policy Aspects and Competition Law Requirements" (2010) *European Competition Journal*, p. 626.

¹⁵ An intellectual property rights is deemed essential if one cannot implement the standard without infringing it. For a recent and deep analysis of standard essential IPRs, with particular reference to the ICT sector, see Claudia Tapia, *Industrial Property Rights – Technical Standards and Licensing Practices (FRAND) in the Telecommunications Industry*, Heymanns Verlag GmbH, 2010.

¹⁶ Recital 4 of TRIPS Agreement confirms that "intellectual property rights are private rights".

¹⁷ Not all standards are "close", though. Many Internet related technologies are good examples of standardized technologies that have remained "open". See Lemley, above note ..., p. 1893 (noting that the Internet runs a set of open and non-proprietary protocols largely because the SSO which controls the IP protocols, ie the Internet Engineering Task Force, had a policy that it would not adopt proprietary standards).

number of right owners require standards implementers to pay royalties, such implementers, even the most efficient ones, may wish not to manufacture the products in question as it would be economically inconvenient¹⁸. As has been noted, in the ICT field “you regularly have to combine 50, 100, even 1,000, or ... 10,000 different patent rights together into one product. You’ve got to clear all those rights ... in order to get your product to the market”¹⁹.

3. The Commission’s Guidelines on standardisation agreements

As mentioned above, the Commission has recently dealt with standardisation agreements, ie those agreements adopted by SSOs with a view to choosing the most appropriate technologies as standards. Such choices are often the result of compromises between the developers and the implementers of the technologies in question.

In particular, on 14 December 2010 the Commission adopted the Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements²⁰, which also include a section on standardisation agreements (“Guidelines”)²¹.

¹⁸ In these cases, the aggregate royalty fees to be paid by the standard implementer can reach very large amounts, sometimes so large to render the production of the product incorporating the standards no longer economically convenient. This phenomenon is known as “royalty stacking”. See also Andrew Updegrove, “The Essential Guide to Standards – Chapter 4: Intellectual Property Rights and Standard Setting” (2007), p. 1 (available at <http://www.consortiuminfo.org/essentialguide/intellectual.php>, last accessed on 15 June 2012); Doug Lichtman, “Patent Holdouts in the Standard-Setting Process” (2006) *U Chicago Law and Economics*, Olin Working Paper No. 292, p. 1 (available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=902646: noting that the protocol that governs how information is stored on DVD-R media - a format for optical disc data storage that uses digital recording - is protected by 177 different patents and that the Radio-frequency identification (RFID) technology - ie a wireless non-contact system that uses radio-frequency electromagnetic fields to transfer data from a tag attached to an object, for the purposes of automatic identification and tracking - implicates more than 4,000 patents); Lemley, above note ..., pp. 1898 and 1933 (noting that it is more difficult to design around IPRs-protected compatibility standards than designing around other types of standards such as safety and quality standards. The author stresses that quality and safety standards are usually non-exclusive whereas the adoption of an interface standard is more likely to exclude other possible interface protocols).

¹⁹ Mark A. Lemley, “Ten Things to Do About Patent Holdup of Standards (and One Not to)” (2007) Boston College Law, Vol. 48, p. 149, Stanford Public Law Working Paper No. 923470, p. 2 (available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=923470, last accessed on 15 June 2012).

²⁰ Article 101(1) TFEU provides that “The following shall be prohibited as incompatible with the internal market: all agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the internal market, and in particular those which: (a) directly or indirectly fix purchase or selling prices or any other trading conditions; (b) limit or control production, markets, technical development, or investment; (c) share markets or sources of supply; (d) apply dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage; (e) make the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts”.

²¹ Although they are not binding, the Guidelines provide valuable clarifications about the applicability of EU competition rules to the agreements in question. See Mathew Heim, “Some Observations on the Treatment of Standardization Agreements in the EC Guidelines on Horizontal Agreements”, *CPI Antitrust Chronicle*, February 2011, p. 5, available at <https://www.competitionpolicyinternational.com/some-observations-on-the-treatment-of-standardization-agreements-in-the-ec-guidelines-on-horizontal-cooperation-agreements> (last accessed on 9 May 2012). The 2011 Guidelines repealed the guidelines adopted by the Commission in 2001, which were however less detailed. The Commission had referred to the principles contained in the 2001 Guidelines in a series of cases, including the *Qualcomm* (the proceedings were closed on 24 November 2009, MEMO/09/516 Brussels), *IPComm* (the

The Guidelines first underline the generally pro-competitive nature of standardisation and of the use of IPRs in standards. Yet, they also express worries. A major concern is that the ownership and exercise of IPRs on standards could permit their owners to control the product or service market to which the standard relates and accordingly carry out activities capable of restricting trade and in particular creating barriers to the entry into the relevant market: eg IPRs holders could require extremely high and/or discriminatory royalties or refuse to license their essential rights, which in turn would restrict effective access to the standard²². Some of these behaviours can be caught, depending on the circumstances, by both Article 101 (on prohibition of restrictive agreements) and Article 102 (on prohibition of abuse of dominant position) of the Treaty on the Functioning of the European Union (TFEU)²³. The Guidelines further note that the issue of market power can only be examined on a case-by-case basis, as there is no presumption that ownership of standard essential IPRs amounts *ipso facto* to market dominance²⁴. This entails that in the absence of market power standardisation agreements are not capable of restricting competition²⁵.

The Guidelines then provide a “safe harbour” exception. It means that certain standardisation agreements that are capable of creating market power do not infringe Article 101(1) TFEU if they satisfy certain requirements. First, the agreement in question should contain no obligation for its parties to comply with the standard²⁶. Second, participation in standard-setting must be unrestricted: all competitors in the relevant market should therefore, be able to take part in the process leading to the choice of the standard²⁷. Third, the procedure for the selection of standards

proceedings were closed on 10 December 2009, MEMO/09/549) and *Rambus* cases. In the latter case, in particular, the Commission’s statement of objections of August 2007 feared that Rambus had abused its dominant position under (what is now) Article 102 TFEU by *inter alia* charging unreasonable fees for the exploitation of its patents covering a technology necessary to meet industry-wide standards set for dynamic random access memory chips (DRAMs). Rambus then offered commitments to limit its royalties and the Commission accepted these commitments in December 2009 (see Commission’s press release at <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/09/1897&format=HTML&aged=0&language=EN&guiLanguage=en>, last accessed on 15 June 2012).

²² Para 269 Guidelines.

²³ This confirms that some provisions of the Guidelines, despite their official name (“Guidelines on the Applicability of Article 101 of the Treaty on the Functioning of the European Union to Horizontal Co-operation Agreements”) are also applicable to Article 102. See European Competition Law Forum (ECLF), “Comments on the Draft Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements” (2010) p. 16 (available at http://ec.europa.eu/competition/consultations/2010_horizontals/ecclf_en.pdf, last accessed on 15 June 2012).. Article 102 TFEU provides that “Any abuse by one or more undertakings of a dominant position within the internal market or in a substantial part of it shall be prohibited as incompatible with the internal market in so far as it may affect trade between Member States. Such abuse may, in particular, consist in: (a) directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions; (b) limiting production, markets or technical development to the prejudice of consumers; (c) applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage; (d) making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts”.

²⁴ Para 269 Guidelines.

²⁵ Para 277 Guidelines.

²⁶ Para 280 Guidelines.

²⁷ Para 281 Guidelines.

should be transparent: it must permit all stakeholders to effectively be informed about all the pertinent work in good time and at each phase of the procedure²⁸.

In case of standard involving IPRs, participants to the SSO who wish to have such rights included in the standard (and want to take advantage from the safe harbour exception) should also comply with two other requirements: (i) *ex ante* good faith disclosure of their IPR that might be essential for the implementation of the standard under development (“*ex ante*” meaning before the adoption of the standard) and (ii) irrevocable commitment to offer to license the IPR to all parties interested on a fair, reasonable and non-discriminatory terms (so-called FRAND commitment)²⁹.

By imposing the first requirement, the Guidelines aim at encouraging disclosure of all relevant IPRs before the standard is eventually adopted³⁰. The imposition of this requirement is useful for other SSO participants that can thus preliminarily verify which technologies, amongst the ones taken into account by the organization, are covered by IPRs and the relevant owners³¹: eg participants may wish to adopt a technology protected by as few IPRs as possible³². SSOs could thus choose a standard that is not locked in any IPR so as to guarantee more competition³³.

With the second requirement the Guidelines want to guarantee that all interested third parties, in particular IPRs holders’ competitors that must implement the standardised technology covered by

²⁸ Para 282 Guidelines.

²⁹ Paras 284-291 Guidelines. FRAND commitments are also referred to in the Proposal for a Regulation of the European Parliament and of the Council on European Standardisation and amending Council Directives 89/686/EEC and 93/15/EEC and Directives 94/9/EC, 94/25/EC, 95/16/EC, 97/23/EC, 98/34/EC, 2004/22/EC, 2007/23/EC, 2009/105/EC and 2009/23/EC of the European Parliament and of the Council (Annex II para 2).

³⁰ For a description of IP disclosure processes and an overview of disclosure related data, see Bekkers – Catalini – Martinelli – Simcoe, above note 10. It has also been argued that a belated disclosure, ie after the standard has been adopted, could also be accepted provided that it is made in good faith: see European Competition Law Forum (ECLF), , above note 23, p. 10.

³¹ It would indeed be prohibitively expensive for such companies to carry out patent searches on national and international registries in order to find out whether the standards in question are covered by patents.

³² Johansson, above note 13. See also Deborah Platt Majoras, “Recognizing the Pro-Competitive Potential of Royalty Discussions in Standard Setting”, Remarks before the Stanford University Conference on Standardization and the Law: Developing the Golden Mean for Global Trade (2005) (available on the Internet at <http://www.ftc.gov/speeches/majoras/050923stanford.pdf>, last accessed on 8 August 2012).

³³ Failure to disclose standard essential IPRs may therefore have a negative effect on competition. It is interesting to mention the US cases (i) *In re Rambus, Inc.*, No 9302, Opinion of the Commission (F.T.C. Aug. 2, 2006, holding Rambus liable for monopolization for hiding the existence of patents in order to influence the adoption of a certain standard. Yet, this decision has been reversed in the appeal proceedings); (ii) *In re Dell Computer Corp.*, 121 F.T.C. 616 (May 20, 1996, holding that Dell had failed to disclose that it owned a patent that it thought would be violated by any implementation of the standard in question; such conduct was held as a violation of antitrust laws). On the Rambus case see Herbert Hovenkamp, “Patent Deception in Standard Setting: the Case for Antitrust Policy” (2010) *U Iowa Legal Studies Research Paper*, pp. 5-20 (available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1138002, last accessed 15 June 2015). In general, on the position taken by the US F.T.C and the Department of Justice on the antitrust issues that may stem from collaborative standard setting when standards incorporate IPR-protected technologies, see their joint publication *Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition*, April 2007 (available online at <http://www.ftc.gov/reports/innovation/P040101PromotingInnovationandCompetitionrpt0704.pdf>, last accessed on 7 August 2012).

the IPR, have effective access to it³⁴: which in turn can stimulate competition through innovation, quality and price³⁵. This is particularly important when the standard has been incorporated into a legislative instrument, such as an EU act. As we have seen, in this case that standard would become a legal standard, and access to it would be the only lawful means for having access to the market. FRAND commitments need to be given by IPRs owners before the adoption of the standard. In such a way IPR holders would not be in a position (or would be less inclined, for fear of litigation) to request unreasonable and unfair royalties by leveraging the fact that the technology in question has been adopted as a standard³⁶.

What happens if a standardization agreement does not satisfy the above requirements? Can it still be accepted under EU competition law and in particular Article 101 TFEU? It can be accepted if it complies with paragraph 1 of this article as a consequence of an effects based assessment: for example, if the standardisation agreement binds the member to only manufacture the goods in compliance with the standard, the risk of restricting competition is great. On the contrary, standards that cover just minor aspects or parts of the end-product are less likely to restrict competition³⁷. The effects based assessment can be carried out taking into consideration the following factors (*inter alia*): the accessibility of the standards, whether the procedure for choosing the standard is open to all the players of the market, the market shares of the relevant goods or services and the possibility for participants to adopt alternative standards³⁸.

If the agreement does not pass the effects based test, it could still be accepted under Paragraph 3 of Article 101 TFEU³⁹. As is known, this provision provides an exemption for (otherwise unlawful) practices that contribute to improving the production or distribution of goods, or to promoting

³⁴ Implementers of standards are obviously interested in minimizing the level of royalties to be paid to IPRs owners and accordingly they are strong supporters of FRAND, whereas IPRs holders tend whenever possible to water down FRAND obligations related to royalty rates (however, the latter position is difficult to support as during the negotiation process implementers may threaten to challenge the validity and/or essentiality of the patent). There are also companies that are both IPRs owners and implementers: in such cases they try to strike a balance between these two positions. See Gordon Christian – Simon Holmes, “Standard Setting – The European Commission’s new approach” (January 2011) *Competition Law Insight*, p. 11.

³⁵ Glader, above note 14, p. 620.

³⁶ Para 287 Guidelines. FRAND commitments can be assessed according to different criteria. For example, in case of dispute the assessment of whether fees charged for access to IPR are unfair or unreasonable should be based on whether the fees bear a reasonable relationship to the economic value of the IPR (para 289 Guidelines). The following comments could also be drawn: (i) the terms “fair” may suggest a principle of equitable treatment of each licensee in light of the circumstances of implementation; (ii) licence fees which do not allow the licensee to market the final product at an appropriate price might be considered unreasonable (it could also be said that a fee can be considered reasonable if it is balanced and not excessive in terms of the connection to the benefits brought by the relevant technology); (iii) if different terms and conditions are offered by the patentee based on the fact that the licensee is a direct or a more distant and less dangerous competitor, said licensing policy could be considered discriminatory.

³⁷ See para 293 Guidelines.

³⁸ See paras 292-307 Guidelines. It should however be noted that the possibility to switch to alternative technologies after a standard is adopted remains a theoretical option in light of the reasons referred to in the next paragraph.

³⁹ Paras 308-324 Guidelines.

technical or economic progress, while allowing consumers a fair share of the resulting benefit. For example, in order to avoid disputes related to FRAND commitments, the Guidelines encourage *ex ante* disclosures of most restrictive licensing terms, such as the maximum royalty rate. Far from being an unlawful price restriction⁴⁰, said disclosures aim at fully informing SSO participants about the likely cost of any IPR related to the standard⁴¹. A standardisation agreement that envisages such disclosure would thus be exempted under Article 101(3) TFEU as it guarantees a transparent procedure and would even enhance competition between technologies by permitting the price to be auctioned down before adopting the standard (on the contrary, failure to disclose restrictive licensing terms would have negative effects on competition)⁴². In other words, as has been noted, keeping in the dark implementers of standardised technology (from the outset of the standardisation process) about the terms on which the latter will be available is capable of subverting the competitive process⁴³.

Frاند commitments in case of transfer of standard essential IPRs

The assignment of standard essential IPRs after the adoption of the standard may also raise a delicate issue.

Indeed, if the assignee of an essential standard IPR does not undertake to offer the licence on to same FRAND terms as those given by the assignor, a risk would arise that the assignee itself remains free to carry out anti-competitive activities such as requesting excessive or discriminatory royalties. In other words, an IPR owner could offer FRAND commitments and assign the relevant IPR to another company that then claims not to be bound by those commitments. That is why the Guidelines stress that SSOs policies should require that IPRs owners which have participated in the standard-setting activity and have given a FRAND commitment, make sure that all assignees of said IPRs accept to be bound by the same commitments: eg a clause referring to FRAND should be enclosed into the contract between assignor and assignee⁴⁴. Similar commitments have been made by Google in February 2012 (after acquiring Motorola) in a letter addressed to the European Telecommunication Standards Institute (ETSI). In particular, Google represented that it would be irrevocably bound by the FRAND commitments given by Motorola, the previous owner of the

⁴⁰ Updegrave, above note 18, para 6.1 (noting that *ex ante* disclosure can be considered favorably by regulators and has precompetitive, rather than anticompetitive, effects).

⁴¹ Para 299 Guidelines. On the effects of *ex ante* disclosure of licensing terms on the development of standards see Jorge L. Contreras, "An Empirical Study of the Effects of Ex-Ante Licensing Disclosure Policies on the Development of Voluntary Technical Standards", American University, Washington College of Law, Washington DC, June 2011 (available on the Internet at <http://www.ftc.gov/opp/workshops/standards/exantereport.pdf>, last accessed on 8 August 2012).

⁴² Joahnsson, above note 13.

⁴³ Joseph Farrell - John Hayes - Carl Shapiro - Theresa Sullivan, "Standard Setting, Patents, and Hold-Up" (2007) 74 Antitrust Law Journal No. 3, p. 609.

⁴⁴ Para 285 Guidelines.

essential patents; and that it would be bound by the maximum royalty rate of 2.25% of the net selling price of the relevant end product (previously agreed upon by Motorola)⁴⁵.

4. Does the ownership of standard essential IPRs really create market dominance capable of triggering anticompetitive behaviors?

We have seen that the Guidelines express concerns about the fact that the ownership and exercise of IPRs in standards might turn out to infringe competition rules. There is much debate on whether the ownership of standard essential IPRs *per se*, really creates market dominance and whether such power can be used by IPRs holders to engage in anti-competitive conducts.

The Commission's stance in the Google Motorola decision

It is preliminarily interesting to comment on two Commission's observations in the *Google Motorola* proceedings. These observations are particularly noteworthy as the Commission, in clarifying the issue of market dominance stemming from ownership of SEPs, went beyond the Guidelines.

First, the Commission held that a SEP must be deemed as a separate market in itself, as patentee's competitors have no alternative for complying with the standard but to work the SEP covered invention. The SEP cannot therefore, be designed around⁴⁶. It seems that the Commission pushed the argument that each SEP owner *ipso facto* (ie for the mere fact of owning a SEP) enjoys market power in the relevant market. This finding seems to go beyond the Guidelines' provisions, which instead stress that the issue of market power can only be examined on a case-by-case basis, as there is no presumption that ownership of essential IPRs *per se* amounts to market power⁴⁷.

The Commission also noted that a SEP owner could threaten to ask for injunctions against competitors at any time (injunctions are widely sought by patentees in the ICT sector). In particular, it fears that national courts grant injunctions without a careful assessment of whether

⁴⁵ See Para 121 Google Motorola decision. For cases in which purchasers of patents claimed not to be bound by a prior FRAND see Roger G. Brooks – Damien Geradin, "Interpreting and Enforcing the Voluntary FRAND Commitment" (2011) *International Journal of IT Standards and Standardization Research*, 9(1), p. 29.

⁴⁶ Para 61 Google Motorola decision.

⁴⁷ Para 269 Guidelines. The Commission's finding echoes the statements made by the Competition Commissioner, Joaquin Almunia, on various occasions. On 10 February 2012 he noted that "Owners of such standard essential patents are conferred a power on the market that they cannot be allowed to misuse" (press release available at <http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/12/83&format=HTML&aged=0&language=EN&guiLanguage=en>, last accessed on 15 June 2012). On 28 February he stressed that "Standards are essential in this industry, because different devices can work with each other only thanks to commonly agreed technologies. And because to build a modern smart phone one needs thousands of standard-essential patents, their holders often have considerable market power. Any company that holds these patents can effectively hold up the entire industry with the threat of banning the products of competitors from the market. This sort of hold-up is not acceptable" (press release available at <http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/12/131>, last accessed on 15 June 2012). On 8 June 2012 he noted again that "The companies that hold standard-essential patents have a large market power, which they can use to threaten to ban the products of competitors from the market. In the worst-case scenario, these legal battles can effectively hold up the entire industry to the detriment of users. This is unacceptable and I am determined to prevent such hold-ups" (press release available at <http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/12/428>, last accessed on 18 June 2012).

FRAND commitments and Article 102 TFEU have been complied with, and that said injunctions are then enforced by patentees⁴⁸. The threat of injunctions, the seeking of injunctions and the actual enforcement of injunctions against a potential licensee in good faith, stressed the Commission, may affect competition and in particular persuade the defendant to accommodate patentee's wishes: eg, the threat of an injunction may convince patentee's competitors to enter into a licence agreement and accept (i) contractual conditions that in normal circumstances they would never have accepted, such as an excessive royalty rate or (ii) an obligation on the licensee which is holder of non-SEPs to cross-license those non-SEPs to the patentee in exchange for a licence of the SEPs⁴⁹. Then, in case injunctions are actually enforced, consumers would also be negatively affected as in the market there would be absence of competing products. This holds true even when injunctions are granted on a temporary basis. Indeed, as the Commission noted, the ICT market is a fast moving market so that even temporary absence of competing products could be detrimental to consumers⁵⁰.

The Commission's belief that these activities might turn out to be anti-competitive is reinforced by the recent investigation against Honeywell, Samsung and Motorola. For instance, Samsung and Motorola had recently asked for and enforced injunctions against competitors in several countries, including some EU Member States, claiming infringements of their SEPs. In particular, in the proceedings against Samsung the Commission investigates whether in doing so the former has failed to satisfy its commitments given in 1998 (when the 3G standards were adopted in Europe) to the European Telecommunication Standards Institute (ETSI) to license essential patents related to European mobile telephony standards on FRAND terms. This behavior, hinted the Commission, might constitute abuse of dominant position under Article 102 TFEU.

"Patent hold-up" and "inverse patent hold-up"

Some scholars do not agree with the above arguments. Damien Geradin, for example, notes that in certain markets different competing standards might be available and accordingly the adoption of a standard by a SSO would not affect competition⁵¹. If implementers of the standardized technology are therefore free to switch to alternative technologies, whether protected by IPRs or not, the IPR holder would not have any incentive to carry out anti-competitive activities (eg increasing price) since by doing so it would lose sales⁵².

⁴⁸ Para 113 Google Motorola decision.

⁴⁹ Para 107 Google Motorola decision.

⁵⁰ Para 107 Google Motorola decision.

⁵¹ Damien Geradin, "Pricing Abuses by Essential Patent Holders in a Standard-Setting Context: a View from Europe - Paper prepared for the 'Remedies for Dominant Firm Misconduct' Conference June 4-5 2008 – University of Virginia" (2008), p. 7 (available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1174922, last accessed on 15 June 2012). It has also been noted that there is a number of standard-setting organizations that compete with each other: see European Competition Law Forum (ECLF), above note 23, p. 1.

⁵² Geradin, above note 51, p. 12 (noting that horizontal and institutional constraints would constitute further obstacles to the creation of market power. In particular, he argues that in case of complementary essential IPRs, the IPR holders will necessarily take into account the prices and royalties chosen by the owner of such complementary rights. Holders of IPRs essential to a standard would therefore be horizontally price-constrained. Said IPR owners would be further constrained by the dynamic and evolving feature of standard-setting, especially in the ICT industry, both before and

This opinion is based on the assumption that alternative technologies do exist, which however, should not be taken for granted. Indeed, in some technological fields it seems that there are no technologies that can be considered alternative to the adopted standard. The fact that in a certain market there are no alternative standards available, coupled with the fact the technology in question is protected by a monopolistic right, may call, in certain circumstances, for the application of competition rules. Yet, in this regard it has been counter-argued that in the absence of suitable alternative technologies, standard-setting processes cannot confer IPR holders greater power than the latter actually has and therefore cannot be considered responsible for the acquisition of market power. Such power would thus pre-exist before the adoption of the standard and be exclusively due to the rarity of the technology at hand⁵³.

But even in case technologies alternative to the IPR-protected standard do exist, the reality is that once a standard is adopted it is practically difficult and economically inconvenient for IPRs owners' competitors to switch to them. Indeed, after industry participants choose a standard and make substantial investments in order to implement it, alternative technologies become less attractive⁵⁴. Implementers are thus soon locked-in to the adopted format and it becomes commercially necessary to comply with the standard⁵⁵.

In other words, even in case alternative technologies do exist, once the standard is adopted, an IPR protecting a standard may give its owner market dominance *ex post* that was much weaker *ex ante* and will allow its owners to extract higher supracompetitive royalties than the ones it would have obtained if its technology had not been selected as a standard. This behavior has been labelled with various names, such as "*ex post* opportunism"⁵⁶, "patent ambush" or "hold-up"⁵⁷. It can also be detrimental to consumers of products which incorporate the standardised technology (downstream consumers), as high royalties are usually passed on them⁵⁸.

The above holds true, in particular, in case of complex products. If multiple manufacturers have started commercialising goods that comply with the initial standard, possibly including various complementary products associated with said standard, switching to a non-infringing technology can be very expensive. Indeed, in complementary products' markets companies often wish that

after the adoption of a standard. In particular, the dynamic and evolving nature of standard-setting would give participants to SSOs the possibility to penalize in the future companies which have set very high royalties, eg by preventing them from contributing in future evolutions of the standard. Such "institutional" constraints would persuade IPRs holders not to carry out anticompetitive activities and in particular set excessive royalties). See also European Competition Law Forum (ECLF), p. 12; Davis J. Teece – Edward F. Sherry, "Standard Setting and Antitrust" (2003) 87 *Minnesota Law Review*, p. 1913.

⁵³ Geradin, above note 51, p. 12.

⁵⁴ Farrell - Hayes - Shapiro – Sullivan, above note 42, p. 607. In the US case *Broadcom Corp v Qualcomm Inc.* it was held that a standard by definition eliminates alternative technologies and can render certain technologies much more valuable than alternative ones that are not adopted as standard (*Broadcom Corp v Qualcomm Inc.*, 501 F.3d 297 (3d Cir. 2007)).

⁵⁵ Glader, above note 14, p. 614 (footnote 12).

⁵⁶ Geradin, above note 51, pp. 11-12.

⁵⁷ See also Farrell - Hayes - Shapiro – Sullivan, above note 43, p. 624 (noting that "patent hold-up often arises when participants learn too late about patents essential to the standard").

⁵⁸ Farrell - Hayes - Shapiro – Sullivan, above note 43, p. 608.

their goods remain inter-operable with the initial standard (especially if the standard is a successful one), rather than with other technologies which have a smaller market share. For example, software houses are more likely to maintain applications programs that are inter-operable with Microsoft's operating system rather than switching to other systems as there are far more consumers for this product⁵⁹. In these circumstances, the IPRs owner leverage in licensing comes from the inability of the alleged infringer to separate the infringing component from the non-infringing ones⁶⁰. And with high switching-costs, the threat of an injunction can allow IPR holders to ask and obtain excessive royalties⁶¹. The potential for an injunction may therefore allow IPR owners to negotiate a settlement for an amount of money bigger than the amount they could realistically expect to obtain in damages based on reasonable royalties (alleged infringers are thus prompted to pay to avoid not the threat that they will have to design around the invention, but the threat that the exploitation of integrated goods – including the unprotected components, on which irreversible investments have been made - will be prohibited⁶²). In such a case, it would not be the value of the IPR protected technology, but the cost incurred by the defendant in switching to another technology, that drives the royalty up⁶³. In other terms, IPRs holders would appropriate more value than they actually create and would be able to hold hostage the implementer's standard-related investments⁶⁴.

It is also for the above reasons that certain authors have pushed the so-called "waiver" proposal. That means that the owner of a standard essential IPR that makes a FRAND commitment keeps its right to ask damages in case of infringement but impliedly waives its right to ask for an injunction⁶⁵: in other words, according to this proposal, the standard essential IPR would be no more a proprietary right – it would become a mere compensatory right. It should however be noted that the seeking and enforcement of injunctions when FRANDS commitment have been given by the IPR holder cannot be always considered anti-competitive. They are not anti-competitive, for example, when the prospective licensee refuses to negotiate the licence on FRAND terms: this was also affirmed by the Commission in *Google Motorola*⁶⁶. As has been said, in these circumstances an "inverse patent hold-up" would take place, "this time committed by the

⁵⁹ An analogous example has been given by Lemley, above note 6, pp. 1896-1899 (also noting that the willingness of implementers to create products compatible with another product that is an industry standard strengthens consumers' desire to purchase the product everyone else buys, a phenomenon known as "tipping").

⁶⁰ Mark Lemley – Carl Shapiro, "Patent Holdup and Royalty Stacking" (2008) *Texas Law Review*, Vol. 85, pp. 2008-2010.

⁶¹ Lemley - Shapiro, above note 60, pp. 2008-2010.

⁶² Lemley - Shapiro, above note 60, p. 2008.

⁶³ Lemley, above note 19, p. 3.

⁶⁴ Lemley – Shapiro, above note 60, pp. 2008-2010 (noting that in the US it is common for defendants to settle litigations for more money than the patentee could have won in damages, merely to avoid the threat of an injunction. The author further gives the example of a patentee charging a 0.75% royalty for patents that do not cover industry standards and 3.50% for patents that do cover industry standards).

⁶⁵ Lichtman, above note 18, p. 2.

⁶⁶ This proposal was mentioned by Geradin – Rato, above note 8, pp. 14-15 (these authors however reject such proposal). See also Joseph Miller, "Standard Setting, Patents, and Access Lock-in: RAND Licensing and the Theory of the Firm" (2006) 40 *Indiana Law Review*.

⁶⁷ Para 16 decision.

standard adopter, who would be in a position to refuse the FRAND licence terms proposed by the patentee but still remain immune from injunctions from infringement”⁶⁷.

Ex ante competition as a benchmark?

We have seen that the Guidelines, in order to avoid disputes related to FRAND commitments, encourage IPRs holders to disclose before the adoption of the standard the most restrictive licensing terms, such as the maximum royalty rate.

Such disclosure seems to be more appropriate than merely requiring the IPR holder to undertake to license on FRAND terms⁶⁸, also in light of the fact that there is no clear definition and understanding of terms such as “fair” and “reasonable” and accordingly subsequent FRAND-related litigation in court cannot be ruled out. It would thus be preferable for the parties to negotiate the terms and conditions of a licence before the standard is adopted (which is facilitated by the above disclosure) rather than running the risk to subsequently renegotiate them in the context of a judicial proceeding, after the standard is chosen.

A similar solution is also recommended by the Guidelines on the Application of Article 81 of the EC Treaty to Technology Transfer Agreements (adopted in 2004), which provide that “in certain circumstances it may be more efficient if the royalties are agreed before the standard is chosen and not after the standard is decided upon, to avoid that the choice of the standard confers a significant degree of market power on one or more essential technologies”⁶⁹.

The above argument is mainly based on the assumption that a reasonable royalty is the royalty that the IPR owner can obtain before the adoption of the standard, when the owner faces competition, and not after the relevant choice is made, ie when there is a monopoly which allows the extraction of high royalties⁷⁰. As has been noted, “the specificity and transparency of price information ex ante is pro-competitive. It allows the potential licensees in the SSO to understand the price they would pay for incorporating the technology into the standard and so allows competition on price as well as on technical merit in the standard setting deliberations. Moreover,

⁶⁷ Geradin – Rato, above note 8, p. 17.

⁶⁸ A solution based on FRAND licensing may not always constitute the right approach, especially if we take into account its cumulative impact. It has been noted that, in case many patents cover the same standardized technology, each patentee might agree to FRAND licensing, but the overall total result would be very expensive to licensees, with the consequence that the total royalty claim could discourage the implementation of the standard: see Carl Shapiro, “Navigating the Patent Ticket: Cross Licences, Patent Pools and Standard Setting” (2001) in *Innovation, Policy and Economy* 1, ed. Adam Jaffe - Josh Lerner - Scott Stern, National Bureau of Economic Research, MIT Press.

⁶⁹ Para 225.

⁷⁰ Carl Shapiro – Hal Varian, *Information Rules: A Strategic Guide to the Network Economy*, Harvard Business School Press, 1999, p. 241. See also Gil Ohana – Mark Hansen – Omar Shah, “Disclosure and Negotiation of Licensing Terms prior to Adoption of Industry Standards: Preventing Another Patent Ambush?” (2003), *European Competition Law Review*, pp. 644-656. For an economic analysis of the negotiation process before the adoption of the standard see Anne Layne-Farrar – Gerard Llobet – Jorge Padilla, “Preventing Patent Hold Up: An Economic Assessment of Ex Ante Licensing Negotiations in Standard Setting” (2008) (available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1129551, last accessed on 8 August 2012).

it assures that the price is competitive as opposed to the supracompetitive price that potential licensees might face in the absence of clear price information *ex ante*”⁷¹.

The level of royalty should therefore be “crystallized” *ex ante* and no increase could be made after a standard has been chosen. This is also in line with the already mentioned Paragraph 289 of the Guidelines which provides criteria for determining whether a fee charged for access to IPR is unfair or unreasonable: in that paragraph the Guidelines recommend *inter alia* to compare the licensing fees charged by the company at issue for the relevant IPR in a competitive scenario before the industry has been locked into the standard (*ex ante*) with those charged after the adoption of the standard (*ex post*).

These arguments are disputed by some commentators. For example, Damien Geradin believes that there is no reason to prevent IPRs holders from charging higher rates *ex post* than *ex ante*⁷². The parties to the licence agreement (the IPR owner and the implementer of the standard) should therefore be free to re-negotiate the terms of the contract including the level of royalty after the adoption of the standard. This is due to the fact that before the implementation of the standard the parties may not have a complete understanding of the commercial exploitation of the technology in question and of the value of the patent, which may only be realised in a subsequent moment⁷³.

In general, according to this school of thought, defining the level of royalties in conformity with an imposed and premature pricing structure would harshly limit the ability of IPR owners and implementers to negotiate bilateral commercial terms that reflect their respective interests: what is fair and reasonable should instead be decided by the parties on a case-by-case basis without any interference from SSOs⁷⁴. Such interference, it is argued, should be avoided as it could keep innovators away from SSOs works⁷⁵ and severely harm their ability to fund the research and development activities, which in turn would be detrimental to consumers and the competitive processes in general⁷⁶.

5. Some proposals

⁷¹ MacCarthy, above note 5, p. 11.

⁷² Geradin, above note 51, pp. 17-18.

⁷³ Geradin, above note 51, pp. 17-18.

⁷⁴ Brooks – Geradin, above note 45, p. 14; European Competition Law Forum (ECLF), above note 23, p. 11. See also Richard S. Taffet, “Ex Ante Licensing in Standards Development: Myths and Reality”, paper presented to AIPLA Spring Meeting, Chicago, Illinois, 4 May 2006 (available on the Internet at <http://www.bingham.com/Publications/Files/2006/05/Ex-Ante-Licensing-in-Standards-Development-Myths-and-Reality>, last accessed on 8 August 2012).

⁷⁵ Geradin – Rato, above note 8, p. 10, footnote 33 (noting that “it is likely that if companies perceive that participation in the standard-setting process threatens patent portfolios, there will be a significant reluctance to participate in the process”).

⁷⁶ Geradin, above note 51, p. 19. See also James C. DeVellis, “Patenting Industry Standards: Balancing the Rights of Patent Holders with the Need for Industry-Wide Standards” (2003) 31 *AIPLA Q.J.* 301, p. 343 (stressing that “if a standard organization adopts an inferior standard because someone owns a patent on a superior technology and refuses to make it available on RF [royalty-free] terms, the standard-setting organization runs a real risk that the chosen standard will not be widely adopted”).

A number of additional proposals have been made that address *inter alia* the competition-related concerns stemming from standard essential IPRs. It is of interest to briefly analyse them. All these proposals share a common feature, ie they aim at neutralising, punishing or discouraging anti-competitive, or anyhow unlawful, behaviours of the owners of standard essential IPRs. Most of these proposals have been made with reference to the US scenario, but the author believes they could validly work in the European legal landscape too.

(i) With particular reference to the non-discrimination principle, it has been proposed to intensify the use of most-favoured licensee clauses. This clause – which is already quite common in the field in question - requires the owner of the standard essential IPR to promptly notify a licensee of any licence granted by him to a third party for the same IPR under analogous circumstances which give rise to terms and conditions that are clearly more favourable than those granted to that licensee. This allows the latter to require the IPR holder the replacement of the terms and conditions of its licence with those of the other third party⁷⁷. (This clause calls to mind the “most-favoured nation” (MFN) clause inserted in many international trade agreements, according to which a country that has been accorded MFN status cannot be treated less advantageously than any other country with which the promising country has entered into a similar agreement). To put it bluntly, such a clause aims at promising that no other licensee will obtain better terms and conditions⁷⁸. This proposal would complement the Guidelines, which do not give clear clarifications and determination criteria as to the “ND” component of FRAND, ie they do not make clear what “non discriminatory” really means.

(ii) Proposals have also been made which give IPRs holders incentives to disclose their IPRs before a decision to standardise a particular technology has been made⁷⁹. For example, SSOs which

⁷⁷ Brook – Geradin, above note 45, p. 32. Yet it has also been stressed that most-favoured licensee clauses might raise competition concerns in their turn (indeed, the aim of these clauses is to put the most-favoured licensee in a position of competitive equality by avoiding competitive disadvantage): in particular, the risk is that in highly concentrated markets such clauses may facilitate collusion: see Van Bael & Bells, *Competition Law of the European Community*, Kluwer Law International, The Hague, 2005, p. 561.

⁷⁸ For an example of MFN clause see the DVD Patent Licence Agreement, which provides that “in the event that Licensor grants a DVD patent licence to another party with royalty rates more favorable” than those contained in the agreement, “Licensor shall send written notice to Licensee” and “Licensee” shall be entitled to an amendment to this Agreement to the extent of providing for royalty rates as favorable as those available to such other party” (see Lichtman, above note 18, p. 11, footnote 46).

⁷⁹ We have seen above that disclosure of standard essential IPRs is useful to both implementers and SSOs. Yet the relevance of disclosure could be watered down in certain circumstances. See Farrell - Hayes - Shapiro – Sullivan, above note 43, p. 629 (noting that disclosure even of a granted patent, let alone of an application, “does not clearly reveal what will eventually be held to be covered by a valid patent. This patent fog stems from various aspects of patent policy, including: the secrecy of patent applications; ... the difficulty of patent claims interpretation; patent applicants’ ability to amend their claims (apparently even to cover a competitor’s product that previously was not plainly covered); and the fact that many patents are invalid, but their invalidity may emerge only after prolonged and costly litigation that users may have little individual incentive to pursue”). Therefore, disclosure of standard essential IPRs may not be of help in all circumstances, eg it does not reveal whether the patent in question are valid or even cover the standard: see *Nokia Corp v Interdigital Technology Corp, Court of Appeal - Patents Court*, December 21, 2007, [2007] EWHC 3077 (Pat), a case concerning 29 patents claimed by the defendant to be essential to the 3G standard (the court held that of the four patents it had to take into account just one should be deemed as essential). On this

impose on holders of standard essential IPRs a duty of disclosure could adopt a rule that either requires undisclosed rights to be licensed on a royalty-free basis⁸⁰ or at least limits the royalties that can be charged on undisclosed IPRs (so-called “royalty-capping” approach), with no power of the right owners to seek injunctions⁸¹: this would *de facto* amounts to a penalty or even to a compulsory licence against the IPR owner that has not complied with his duty of disclosure⁸². A similar rule could also be proposed where IPRs owners do not wish to grant voluntary licences on non-discriminatory terms. If adopted, these proposals would witness a transformation of standard essential IPRs from proprietary to compensatory rights.

Compulsory licensing style approaches have been criticized. First, the opponents of such proposals note that the case law, especially from the Court of Justice of the European Union (CJEU), admits compulsory licences only in limited and exceptional circumstances⁸³. Second, a compulsory licensing system would facilitate what has been called “forking”, ie the fragmentation of the standard amongst different systems. Indeed, if no company is in a position of exercising exclusive rights on a given standard, a risk exists that SSO participants depart from the standard itself and adopt incompatible technologies, with the very purpose of standardisation being severely jeopardised. This is precisely what standardisation processes should aim to avoid, as standards, in particular interoperability standards, increase confidence that there will be many users and that the industry will not fragment among different variants of the original standard⁸⁴. Fragmentation would not occur if the IPR holder instead reserves his exclusive rights to prohibit any commercial activity related to the standard including its modification⁸⁵. This argument is a valuable one and could be relied on to oppose compulsory licensing approaches. Yet it may be counter-argued that SSO participants could be only granted compulsory rights (either at zero or capped royalties) provided that licensees formally undertake not to depart from the standard; and that should licensees fail to comply with this undertaking they would lose their licence. In such a manner the IPR holder would remain in a position to exercise their exclusive rights (and indirectly making

case see also Pierre-Andre Dubois, “Standardization, FRAND Terms and Patent Misuse” (2007) *The European Antitrust Review*, pp. 68-70.

⁸⁰ See for example Section 10.4 of the patent policy adopted by the VITA Standards Organization, which provides that if participants do not adequately and timely disclose essential patents, then such patents must be licensed royalty-free.

⁸¹ See Lemley, above note 6, p. 1962; Jorge L Contreras, ‘Rethinking RAND: SDO-Based Approaches to Patent Licensing Commitments’ (2012) ITU Patent Roundtable, Geneva, 10 October 2012 (available at SSRN: <<http://ssrn.com/abstract=2159749>>). With particular reference to injunctions, it has been proposed that patentees should not be able to obtain injunctions against the implementer of a standard, provided that the latter is creditworthy and accept to get a licence on FRAND conditions: see European Competition Law Forum (ECLF), above note 23, p. 16.

⁸² Lemley, above note 6, p. 1962.

⁸³ Geradin – Rato, above note 8, p. 47 (noting that the CJEU’s decision in the *IMS* case confirmed that the refusal to license by an IPR holder cannot amount *per se* to an abuse of dominant position, while the exercise of the exclusive rights offered to the owner by an IPR may in exceptional circumstances lead to an abusive conduct). See C-418-01, *IMS v NDC* [2004] ECR I-5039. See also C-242/91 P, *Magill* [1995] ECR I-743; C-238/87 *Volvo v Veng* [1988] ECR 6211.

⁸⁴ MacCarthy, above note 5, p. 6.

⁸⁵ Lemley, above note 6, p. 1963.

substantial contribution to controlling the development of the standard) without however being able to prohibit third parties to implement it in a compliant way⁸⁶.

(iii) Another proposal has been made which would also be based on an *ex ante* approach. In particular, it has been proposed that SSOs adopt and manage auctions between different technologies. More precisely, IPR owners willing to have their technology included in the standard would submit to SSOs offers to licence their IPR specifying the level of royalty requested. The implementers would then proceed to choose the most convenient offer⁸⁷. The supporters of this proposal believe that such an auction would provide good result and in particular a benchmark for what is a fair and reasonable royalty, as it would reflect the level of competition between IPR owners and implementers that exists before the adoption of the standard.

(iv) We have seen that a rule could be imposed that requires undisclosed IPRs to be licensed on a royalty-free basis. Some SSOs adopt an even more straightforward approach: they mandate royalty-free licensing as a requirement for participation to the work of the organization. This approach aims at keeping the access to the standardised technology as open as possible and thus reducing the costs of the products that incorporate that technology. In such a way, patent hold-up problems are ruled out and accordingly risks of patent related litigation are minimized. The Guidelines also stress that the concept of FRAND may include royalty-free licensing⁸⁸. In particular, they note that, as the risks related to effective access in case onerous royalties are imposed are not the same as in case of SSO with a royalty-free standards policy, the disclosure of the associated IPRs would not be relevant in that context⁸⁹: this means that in case of royalty-free licensing IPRs holders do not have to promptly disclose the existence of standard essential IPRs in order to take advantage of the safe harbour exception.

This licensing approach has been criticised as it would (again) amount to a compulsory licence. It has been noted that imposing a royalty-free licensing system would prevent investors from recouping the investments made to come up with the standardised technology: with the result that said investments would be discouraged. How could an IPR holder, the argument goes, be prompted to join a SSO if the latter requires him to give up any royalty in relation to the technology he has invented or is about to invent?

It has been counter-argued that IPR owners are not obliged to join SSOs. Royalty-free licences are not mandated by the government, but they are voluntarily accepted by private parties that want to become member of a standard setting organisation⁹⁰. If an IPR holder wants to be rewarded for its invention by means of royalties, he could decide to remain outside the SSO and avoid accepting royalty-free licensing schemes. In such a way he could still get royalties in case the SSO chooses to adopt a standard whose implementation requires the use of his patented technology (it might

⁸⁶ Lemley, above note 6, p. 1964.

⁸⁷ Daniel Swanson – William Baumol, “Reasonable and Nondiscriminatory (RAND) Royalties, Standards Selection, and Control of Market Power”, 73 *Antitrust Law Journal*; Farrell - Hayes - Shapiro – Sullivan, above note 43, pp. 634-635.

⁸⁸ Para. 285, footnote 3.

⁸⁹ Para 286.

⁹⁰ MacCarthy, above note 5, p. 14.

indeed happen that a standard setting organization eventually adopts a technology developed by a non-member). This latter circumstance is possible, but rather rare. As a matter of fact, by not participating to the SSO works, the IPR holder basically gives up good chances to influence the choice of the standard. But, as Mark MacCarthy puts it, the IPR owner “should not have it both ways – demanding both to be rewarded for innovative activity and also to influence the development of a standard that would facilitate that reward”⁹¹. The IPR owner should therefore forego some of his exclusive rights in exchange for the chance to have his technology included in a standard. Mark MacCarthy also notes that even if the IPR holder accepts a royalty-free licensing scheme, he could still be rewarded for his inventive activity in manufacturing and marketing goods associated with the standard: the IPR owner would thus be able to reap the benefits of his technology by charging royalties for uses of said technology outside uses essential to standards implementation⁹².

(v) It has also been proposed that participants to a SSO should be allowed to collectively negotiate royalty rates on behalf of standard implementers, so as to counterbalance the strong bargaining power owned and exercised by holders of standard essential IPRs⁹³. This proposal has been criticised because it would allegedly infringe competition rules and in particular Article 101 TFEU which prohibits restrictive agreements (in particular it would be detrimental to final consumers). The author does not believe that collective negotiations in this field would infringe competition provisions. On the contrary, it seems that a collective licensing approach may benefit consumers and therefore could be exempted under Paragraph 3 of Article 101 TFEU. Indeed, collective negotiations would likely trigger competitive royalties, which could then be passed on end-consumers.

(vi) In case owners of standard essential IPRs fail to disclose their rights to the SSO the equitable estoppel doctrine has also been indicated as a possible defence to be invoked by alleged infringers⁹⁴ (this proposal falls outside the realm of competition law). In common law jurisdictions equitable estoppel allows a court not to grant a judgment or other legal reliefs to a party who has not acted fairly, eg by having made false representations or concealing material facts from the other party. This doctrine does apply to IPRs as well. Indeed, a patent owner, through a misleading conduct, may lead the alleged infringer to reasonably infer that the former does not wish to enforce its exclusive rights against the latter⁹⁵. To be able to successfully invoke this doctrine, the alleged infringer should demonstrate that he relied on patentee’s misleading behavior and that he would be jeopardised if exclusive rights are enforced against him.

⁹¹ MacCarthy, above note 5, p. 13.

⁹² MacCarthy, above note 5, p. 13.

⁹³ Lemley - Shapiro, above note 60, p. 2043. See also Robert A. Skitol, “Concerted Buying Power: Its Potential for Addressing the Patent Holdup. Problem in Standard Setting” (2005) 72 *Antitrust Law Journal* 727

⁹⁴ Robert P. Merges & Jeffrey M. Kuhn, *An Estoppel Doctrine For Patented Standards*, 97 CAL. L. REV. 1, 11 (2009); Lichtman, above note 18, p. 8.

⁹⁵ Lemley, above note 6, p. 1918. See also Janice M. Mueller, “Patent Misuse Through the Capture of Industry Standards” (2002) *Berkeley Technology Law Journal*, Vol. 17 (proposing that SSOs should be informed about any relevant patent owned by SSOs’ participants and that in cases of willful nondisclosure of patents a participant who thereafter refuses to license all users at reasonable and nondiscriminatory terms, judges should refuse to enforce such patents altogether under a theory of patent misuse).

The equitable doctrine seems therefore to be appropriate in case owners of standard essential IPRs omit to disclose their rights before a standard is adopted⁹⁶. The implementer that is threatened by the IPR holder's action should be able to show that he had a good faith belief that no IPRs covered the standard in question⁹⁷. This principle does not require affirmatively misleading statements on the part of the IPR owner, but it could also apply in cases in which the right holder has a clear duty to speak: thus, when it comes to applying this principle to cases where IPR owners have contractual obligation to disclose their rights before the adoption of a standard, a breach of that obligation would trigger estoppel⁹⁸. In the US this doctrine has been interpreted very broadly. For example, in *Stambler v. Diebold* the judge found estoppel on the basis of patentee's conduct in the context of an SSO even absent a specific SSO rule mandating disclosure (patentees' misleading statements, noted further the court, need not to be made to the SSO, they could be made generally to the marketplace)⁹⁹. Companies that are not members of the SSO, it has also been proposed, should be able to invoke the doctrine in question and thus rely on representations and disclosures made by the IPR holder¹⁰⁰.

(vi) In addition to the equitable estoppel doctrine, it has also been proposed that, in case an IPR owner has an obligation to disclose his exclusive rights on a given standard and knowingly omits to do so or states that no rights exist, a SSO participant would be able to invoke fraud (again this proposal remains outside the realm of competition law)¹⁰¹.

6. Concluding remarks

We have seen that standardisation processes and in particular standardisation agreements adopted by SSOs may raise in some circumstances delicate competition issues (both "exclusion" and "collusion"). Anti-competitive concerns may be further exacerbated when standardised technologies are protected by IPRs and the owners of such rights maliciously use standardisation processes to increase and abuse their dominance of a certain market or anyhow restrict competition.

The 2011 Commission's Guidelines, which encourage owners of essential IPRs to disclose their rights before the adoption of the standard as well as to give FRAND commitments, are a good answer to those concerns.

Two different schools of thought, however, exist about whether competition law remedies should apply to these scenarios to correct possible anti-competitive behaviours of the holders of standard essential IPRs. On the one hand, the European Commission obviously threatens to rely on such

⁹⁶ Lemley, above note 6, p. 1918.

⁹⁷ The patentee could not, however, argue that the user of standard should have been diligent and conducted searched on patents databases with a view to finding possible prior rights. As mentioned above, these searches are indeed very expensive and could also show imperfect results.

⁹⁸ Lemley, above note 6, p. 1918.

⁹⁹ Lemley, above note 6, p. 1919 and 1921 (referring to *Stambler v Diebold, Inc.*, 11 U.S.P.Q.2d 1709, 1714-15 (E.D.N.Y. 1988), *aff'd* 878 F.2d 1445 (Fed. Cir. 1989) (unpublished).

¹⁰⁰ Lemley, above note 6, p. 1920.

¹⁰¹ Lemley, above note 6, p. 1935.

remedies with a view to preserving or restoring the competitive nature of the market in question. On the other hand, IPRs owners and their legal advisors believe that market forces and contractual negotiations, far from unearthing power imbalances between the various stakeholders, are sufficient to reach a fair balance between the positions and interests of developers and implementers of standardised technologies.