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Standard Essential Patents Litigation and Abuse of a Dominant Position: The "FRAND" Defense in the EU Competition Law Context

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List of Abbreviations

1G = First Generation Telecommunication Technology
2G = Second Generation Telecommunication Technology
3G = Third Generation Telecommunication Technology
4G = Fourth Generation Telecommunication Technology
ADR = Alternative Dispute Resolution
AG = Advocate General
ANSI = American National Standard Institute
BGH = Bundesgerichtshof (German Federal Supreme Court).
CJEU = Court of Justice of the European Union
DG = Directorate General
DoJ = US Department of Justice
E.g. = exempli gratia
EC = European Commission
EEA = European Economic Area
EP = European patent
EPC = European Patent Convention
EPO = European Patent Office
ETSI = European Telecommunications Standards Institute
EU = European Union
FRAND = Fair, Reasonable, and Non-Discriminatory
GC = General Court
GPRS = General Packet Radio Service
GSM = Global System for Mobile communications
I.e. = id est
ICT = Information Communication Technology
IEC = International Electrotechnical Commission
IEEE = Institute of Electrical and Electronics Engineering
IP = Intellectual Property
IPR(s) = Intellectual Property Right(s)
ISO = International Organization for Standardization
ITU = International Telecommunication Union
JV(s) = Joint Venture(s)
LoA = Letter of Assurance
LTE = Long Term Evolution

MoU = Memorandum of Understanding
NPE(s) = Non Practicing Entity(ies)
P. = Page
PAE(s) = Patent Assertion Entity(ies)
Para. = Paragraph
R&D = Research and Development
SEP(s) = Standard Essential Patent(s)
SO = Statement of Objections
SSO(s) = Standard-Setting Organization(s)
TFEU = Treaty on the Functioning of the European Union
TTBER = Technology Transfer Block Exemption Regulation
TUE = Treaty on the European Union
UMTS = Universal Mobile Telecommunication System
UPC = Unified Patent Court
VITA = VME (Versabus Module Eurocard) International Trade Association.

Abstract

This dissertation first discusses industry standards, defined as any set of technical specifications providing for products' interoperability. Standards are adopted by standard-setting organizations (i.e. SSOs), gathering market players, competitors included. To respect Article 101 TFEU, the EC requires SSOs to ensure unrestricted participation, transparent and voluntary processes of standard-development, and effective, yet not compulsory, access to the developed standards. Specifically, SSOs' members are mandated to disclose potentially standard-essential patents (i.e. SEPs), and to commit to license them on fair, reasonable, and non-discriminatory (i.e. FRAND) terms.

The FRAND defense, resulting from the CJEU's *Huawei/ZTE* preliminary ruling, is then analyzed. The Court admitted that, in the exceptional circumstances of a FRAND-encumbered SEP, injunctions sought by dominant patentees against alleged infringers could be avoided raising a competition law claim of abuse of dominance.

Huawei/ZTE overruled the precedent German *Orange-Book* jurisprudence, which admitted the FRAND defense only whether the SEP-holder refused a license such favorable terms just unlawfully rejectable, plus if the infringer proved that he behaved as if licensed. It was also disavowed the EC's enforcement approach in *Samsung* and *Motorola*, whereby the alleged infringer could successfully raise the FRAND defense just agreeing to be bound by a third party FRAND-determination, even contemporaneously challenging the SEPs in suit. The CJEU, recognizing that the risks of patent-strategic behavior rest on both parties, defined a negotiating framework, which ensures FRAND remuneration to SEP-holders, and FRAND access to standard-implementers, without use of injunctions and of Article 102 TFEU as bargaining leverages.

Lastly, as *Huawei/ZTE* left open FRAND-related issues, further developments are speculated, in particular whether SEP-ownership implies market-dominance, and how FRAND terms should be determined.

Introduction

On 16 July 2015, the Court of Justice of the European Union (CJEU) rendered its decision on the preliminary ruling, referred on 5 April 2013 by the Düsseldorf Landgericht,[1] in the proceedings between *Huawei* and *ZTE*.[2] The referral concerned whether the act of seeking judicial remedies against the infringer of standard essential patents (hereinafter SEPs) constitutes an abuse of a dominant position. The apical judicial authority of the European Union [3] ruled that, an undertaking holding a SEP, encumbered by a commitment to a standard-setting organization (hereinafter SSO), to grant third parties a license for that patent on fair, reasonable and non-discriminatory (hereinafter FRAND) terms,[4] does not contravene Article 102 TFEU by asking for prohibitory injunctions,[5] as long as it follows a certain procedure, while the alleged infringer shows its unwillingness to take a license. This ruling directly followed two European Commission's (hereinafter EC) decisions,[6] which addressed the same antitrust concern.

Patent infringement disputes between large information and communication technology (hereinafter ICT)[7] corporations have cast the attention of the public to a body of laws in which intellectual property

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[1] Landgericht are the specialized chambers of the German regional courts that handle patent infringement proceedings. The Federal Patent Court in Munich separately hears patent validity.

[2] Case C-170/13 *Huawei v ZTE* EU:C:2015:477.

[3] Pursuant to the principle of sincere cooperation, set by Article 4(3) TEU, the EC and national courts, are bound by the CJEU's interpretation of the treaties.

[4] FRAND terms, especially in the US, are also known as RAND (reasonable and non-discriminatory). Courts and scholarship use them interchangeably.

[5] I.e. court decisions whereby a party is ordered to desist from an infringement of an intellectual property right.

[6] Case AT.39939 *Samsung Enforcement of UMTS standard essential patents,* Commission Commitment Decision of April 29, 2014; and, Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014.

[7] The ICT sector comprehends industries such as telecommunications, computers, software, Internet and consumer electronics.

(forth on IP) and competition intersect, namely exclusive rights on the one hand (i.e. lawful monopolies), and ban from misusing market power on the other. The two legal regimes *prima facie* seem to necessarily clash, but modern antitrust doctrine has recognized that they share the common goal of promoting innovation and enhancing consumer's welfare. In fact, IP and competition law work together to reach a socially optimal balance between rewarding innovation, while promoting the diffusion of new technologies.[8] Patents, granting their holders the ability to earn monopoly profits for a fixed time, incentivize investments in research and development (forth on R&D) in return for the disclosure of the protected innovation; antitrust law protects such important dynamic competition on the merits.

The knowledge economy heavily relies on coordinated efforts by industry participants to set technical standards through SSO, in order to better meet the consumers' demand for innovation and new technology, in a timely fashion. The ICT sector is an example of how interface standards allow economic growth through rapid development. Over the last ten years we have seen, in sequence, first generation (1G or GSM) mobile phones with basic calling and messaging features, evolving into second generation ones (2G or GPRS) with data transmission. Subsequently we have seen the development of third (3G or UMTS) and fourth generation (4G or LTE) smartphones with faster transmission capabilities. Accordingly, these increasing complex devices incorporate software and hardware that comply with a significant number of standards, which bundle patented technology owned by many different entities.[9] The Internet of Things (IoT),[10] where machines talk to

[8] For the foundations of competition policy see JEAN TIROLE, "The Theory of Industrial Organization", *The MIT Press*, Cambridge (Massachusetts, US) 1989; more recently M. MOTTA, "Competition Policy: Theory and Practice", 2004 (Cambridge University Press).

[9] M. FRÖNLICH, "The smartphone patent wars saga: availability of injunctive relief for standard essential patents", *Journal of Intellectual Property Law & Practice*, January 2, 2014.

[10] Because of the Internet of things, ICT standards are expected to spread to other industries in the near future, see M. CHUI, M. LÖFFLER AND R. ROGERS, "The internet of things", *McKinsey Quarterly*, n. 2 (2010).

machines implementing Wi-Fi technology, begins to show the potential future importance of standardization. This innovation wave, which has stimulated economic growth and, in turn, enhanced economic welfare, has come at the price of industry participants, competitors included, gathering in ad hoc entities, i.e. SSOs, with the specific purpose of substituting *ex ante* market competition for the selection of the winner technology, with an industry wide agreement, which shifts competition *ex post* on differentiating the selected technology.

Regulators and antitrust enforcement agencies around the world have strictly scrutinized SSOs and their participants, imposing duties on both, to avoid risks of respectively collective and individual anticompetitive behaviors. In the European Union, the EC's Horizontal Guidelines [11] strike the balance between collusion concerns and the positive economic effects of standardization, generally recognizing its compatibility with Article 101(1) TFEU, provided certain conditions are met. Furthermore, restrictive effects on competition can arise under Article 102 TFEU where proprietary technology (i.e. covered by an intellectual property right, forth on IPR) is included in the specifications of a standard, allowing the IPR owner to control the access to the standard. Patents read on by a standard become essential (i.e. SEP), insofar no one can implement the standard without infringing upon them. Because of the essentiality, the patentee is able, either to totally exclude others from accessing the standard technology, or to constructively refuse access asking excessive licensing terms for the use of its patents: here it is the vastly studied and debated patent hold-up.

The same members of the various SSOs, in a private ordering way, have *in primis* tackled hold-up self-imposing two consequential duties before the adoption of the standard, generally stemming from the SSOs' by-laws, known as IPR policies. The first duty is to search and disclose to the SSO any patent[12] potentially essential in implementing the standard. The second duty is to commit to licensing the disclosed patent,

[11] Guidelines on the applicability of Article 101 TFEU to horizontal co-operation agreements [2011] OJ C 11/1.

[12] Sometimes patent applications too, contrasting with their secrecy that in the EU lasts eighteen months from their deposit.

if truly essential, to every willing licensee at FRAND terms. This broad commitment has been the core of the smartphone patents war,[13] culminating in the CJEU's decision in *Huawei/ZTE*, which outcomes are the subject of this dissertation. For a proper understanding of the implications of *Huawei/ZTE,* it is critical to look at the environment where standards are set. To do so, the remainder of this paper is divided in three sections: Section 1 provides the theoretical framework by defining the different types of industry standards, how in general SSOs are organized and how they manage SEPs by requiring FRAND commitments. Section 2 analyzes the FRAND defense, from its German origins to the CJEU's developments. Lastly, Section 3 speculates on further solutions to issues left open by *Huawei/ZTE*. A brief conclusion sums up the reasoning.

Bearing in mind that the underlying legal issues are broader than European-wide, references to comparable jurisdictions and especially to legal scholarship from the US, which first treated standardization and SSOs, will be made when appropriate.

[13] For an overlook of the smartphone patent war see: C. DUHIGG & S. LOHR, "The Patent, Used as a Sword", *The New York Times*, October 7, 2012; or J.I.D. LEWIS & R.M. MOTT, "The sky is not falling: navigating the smartphone patent thicket", *WIPO Magazine*, February 2013, n. 1.

Section 1 The Context of the FRAND Defense

Chapter 1 Standards

For our purposes, standards are defined as any set of technical specification, which either does, or is intended to, provide a common design or features for a product or process.[14] Standards are increasingly important in the global economy, especially in the fast growing ICT sector, which is driven by the need for compatibility across networks so essential in modern life. Today every device needs to connect and communicate with one another, following interoperable technology solutions.[15] Many electronic products we constantly use are based on technological standards that make them interoperable. These technological standards, for instance, enable an Italian owner of an iPhone to call a French friend, who uses a Samsung Galaxy through different networks.[16]

Paragraph A Significance and Functions of Standards

Technical specifications are ubiquitous and have existed for centuries. Regarding their spatiality, it suffices to read this paper to realize that it is actually brought to you through a standard, either a set of A4 sheets, either through a PDF or .doc file. Light bulbs, electrical plugs

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[14] M. A. LEMLEY, "Intellectual Property Rights and Standard-Setting Organizations", *California Law Review*, 2002, vol. 90, p. 1889-1980.

[15] As Professor Layne-Farrar points out, compatibility and interoperability are, *stricto sensu*, different concepts, but scholarship has used them, *lato sensu*, interchangeably. See A. LAYNE-FARRAR, "Moving Past the SEP RAND Obsession: Some Thoughts on the Economic Implications of Unilateral Commitments and the Complexities of Patent Licensing", *George Mason Law Review,* 2014, vol. 21, n. 4.

[16] A. GALETOVIC & K. GUPTA, "Royalty Stacking and Standard Essential Patents: Theory and Evidence from the World Mobile Wireless Industry", *Stanford University Hoover IP2 Working Paper Series*, May 1, 2015, n. 15012.

and outlets are all built to particular standards. Turning to their time existence, for instance, until the International System of Units was adopted in 1875, each nation had its own standards for measurement, like the cupit for the Egyptians, the foot for the Romans or the arm for the Florentine Republic.

Standards may be distinguished in three categories regarding their function:[17] i) quality standards gradate products features to make them comparable for customers across different sellers; ii) performance standards define default minimal features to which every product must comply in order to serve public interests, such as health and safety;[18] iii) compatibility standards set common design issues enabling products to work together.[19] Standards provide information, maintain quality and ensure interoperability; therefore, standardization, as a public interest activity, benefits the economies as a whole with better supply conditions and lower transaction costs.[20]

Paragraph B Types of Standards Regarding Their Formation

Standards, based on their establishment, can be differentiated in i) *de facto*, ii) *de iure* and iii) *de consenso*.[21]

i) *De Facto* Standards

De facto standards are the spontaneous result of market success of a product over its competitors. These, without being endorsed by any SSOs, are typically defined by the firm that wins the competition for the

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[17] C. SHAPIRO, "Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard Setting" in A.B. JAFFE et al. "Innovation Policy and the Economy", vol. 1, p.119-150 MIT Press, January 2001, p. 139.

[18] Usually, quality and performance standardization follows product design while, nowadays, compatibility standardization precedes or accompanies the development of products.

[19] Our focus will be on the latter category, being the one relevant in Huawei/ZTE.

[20] For a brief historic analysis of standardization, see A. UPDEGROVE, "ICT standard setting today: A system under stress", *First Monday*, June 2007, vol. 12, n. 6.

[21] Competition happens before a *de facto* standard and after a *de consenso* one.

market, then subsequently adopted by all industry participants.[22] For instance, JVC's Video Home System (VHS) became the *de facto* standard for videocassette recorders over Sony's Betamax technology. More recently, Sony had its revenge in the home video market, with its Blu-Ray disc winning over Toshiba's HD-DVD disc. Google's Android operating system for mobile devices is a *de facto* standard too, being adopted by a large number of manufacturers. In *Huawei/ZTE*, the German judicial precedent,[23] whose tension with the EC's view in *Samsung* and *Motorola* investigations gave rise to the Article 267 TFEU referral, involved a *de facto* standard, the so-called Orange Book standard for the technology of CDs.

Competition between standards can be influenced by individual voluntary announcements, specifying maximum licensing terms or forswearing injunctive relief for the firm's proprietary technology, which persuade other market participants to adopt a firm's technology option, thereby facilitating its acceptance as the *de facto* standard, while granting competition in its commercialization. Unilateral pledges are, indeed, becoming popular beyond *de facto* standards, as a signal of good-faith dealings, allaying concerns of holdup for key industry stakeholders.[24] Generally, a *de facto* standard is proprietary unless the standard setter chooses to release it to the public. Contrary to these purely market driven standards are those publicly set.

ii) *De Iure* Standards

Public authorities define this type of standards. In the past public regulators have used normative powers to protect domestic firms from

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[22] Layne-Farrar warns that overzealous regulation of SSOs might lead to market leaders consciously opting out of SSO to establish their *de facto* standards.

[23] *Orange-Book Standard*, May 6, 2009, Bundesgerichtshof (BGH) KZR 39/06 Orange Book was the informal name for Philips and Sony's Recordable CD *de facto* standard.

[24] E.g. Apple's letter to ETSI dated 11 November 2011, committing to license its mobile telecommunication SEPs on FRAND terms, not using them offensively. Reported in Motorola v Apple decision at para. 268. See also M. ANGELI, "Willing to Define Willingness: The (Almost) Final Word on SEP-Based Injunctions In Light of Samsung and Motorola", *Journal of European Competition Law & Practice*, 2015, vol. 6, n. 4, at p. 226.

foreign competition. The International Organization for Standardization (ISO)[25] was born in 1946 to harmonize conflicting national standards. The EU, with its seminal three economic communities evolving around the idea of unitary market, has also tackled harmonization concerns through standardization; as an example, the "CE" mark affixed on many products traded in the European Economic Area,[26] means manufacturers self-certify that their products conform with European standardization requirements. Nowadays, indeed, *de iure* standards primarily have a performance function, serving public interests by mandating all participants in the market to comply. Notwithstanding the presence of *de iure* and *de facto* standards, more frequently, technical specifications of standards are voluntary and formally adopted by SSOs,[27] as it is the case for the LTE standard involved in *Huawei/ZTE*.

iii) *De Consenso* Standards

De consenso standards are the most relevant for our analysis. These standards are the result of the industry consensus, voluntarily expressed either within the framework of SSOs, or in *ad hoc* agreements between undertakings,[28] sometimes called *consortia* or *fora*. Rapid technological innovation requires standardization to keep pace. While, prior to the advent of ICT industries, standardization usually followed innovation and product design, today it matches or perhaps precedes these forces.[29] Following the increase in demand for standards,

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[25] Previously International Standards Association (ISA); ISO members are all governments rather than private actors.

[26] The European Economic Area (hereinafter EEA) comprehends the twenty-eight EU Member States plus Norway, Liechtenstein and Iceland.

[27] Standard developing organization (SDO) is a synonym of SSO sometime used in dating US scholarship. Nonetheless, it would be more accurate to refer to standard development.

[28] G. PIESIEWICZ & R. SCHELLINGERHOUT, "Intellectual property rights in standard-setting from a competition law perspective", *Competition Policy Newsletter,* 2007, n. 3.

[29] Innovation in the ICT industry synchronizes the development of new systems technologies with the standardization of the interfaces of their components. For instance, different railroads existed long before the standard gauge was set, while the 4G telecommunication standard set in 2008 took four more years before getting to

standardization has changed its infrastructure providing multiple platforms, so-called SSOs, where industry stakeholders agree to standards for next technical issues. As *Huawei/ZTE* involved a *de consenso* standard set by an SSO, namely Long Term Evolution standard (hereinafter LTE) adopted by the European Telecommunication Standards Institute (hereinafter ETSI), reference in the rest of the paper will be limited to this particular type of standard.[30]

Paragraph C Effects of Standardization

Design standards have become unavoidable in the world economy by making products compatible with each other, to the benefit of both consumers and market participants, all of which gain from network externalities.[31] Thanks to standards, consumers avoid being locked-in to a particular supplier's product, while industry participants achieve economies of scale in production as a result of the enlarged overall consumer markets.[32] In effect, standardization is procompetitive insofar it drives economic interpenetration in the common market, simplifies product development and promotes efficiency and consumer choice, overall leveling the competitive playing field.[33] At the same time economists have noted that highly technological markets, characterized

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markets. See H. ULLRICH, "Patents and standards – a comment on the German Federal Supreme Court decision Orange Book Standard", *International Review of Intellectual Property and Competition Law,* 2010, vol. 41, n. 3, p. 337 to 351.

[30] See Annexes, Table 1 Classification of Standards.

[31] In a network market, the value of a product to consumers is a function of how many the consumers are. Network externalities reinforce the desire of consumers to buy products everyone else buys, a phenomenon also known as tipping. E.g. the value of an instant messaging application for mobile phones, like Whatsapp, increases depending on the overall number of its users.

[32] Modern phone chargers all implement the micro-USB specification, instead of each different manufacturer using its own jack, as it was common before 2009, when the European Commissioner for Enterprise and Industry threated with regulatory measures if the industry did not converge on a common standard.

[33] G. PIESIEWICZ & R. SCHELLINGERHOUT, "Intellectual property rights in standard-setting from a competition law perspective", *Competition Policy Newsletter,* 2007, n. 3.

by large R&D investments, learn-by-doing effects, network externalities and path dependence are led to evolve towards monopolistic balances where one product becomes the leader (so-called winner takes it all markets). A monopolist has no need for standardization since it makes every product and controls every transaction that occurs on the market.[34] In a more dominated market, such as that of operating systems where Microsoft Windows accounts for a large share, standards are important but they may be imposed from the top down. For instance, when Microsoft instructs independent software developers in the protocols necessary to achieve compatibility. Instead, in competitive markets, collaborative standard setting has a bigger role to play, which effects vary depending on the presence of network effects; without network externalities economists presume that consumers fare best with competition as opposed to network markets where standardization would *ipso facto* be procompetitive, whether the interface actually chosen is the best or not.[35]

Hence, standardization can have opposite effects on competition.[36] It generates both i) pro-competitive effects, to the extent that the standard reduces production costs and increase value and choice to consumers,[37] and ii) anticompetitive ones, to the extent that the standard eliminates substitutability of different technologies.[38]

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[34] H.J. HOVENKAMP, "Competition in Information Technologies: Standard-Essential Patents, Non-Practicing Entities and FRAND Bidding", *University of Iowa Legal Studies Research Paper*, November 2015, n. 12-32, p. 5.

[35] M. A. LEMLEY, "Intellectual Property Rights and Standard-Setting Organizations", *California Law Review*, 2002, vol. 90, p.1889-1980.

[36] Guidelines on the applicability of Article 101 TFEU to horizontal co-operation agreements [2011] OJ C 11/1.

[37] M. MARINIELLO, "Fair, Reasonable and Non-Discriminatory (FRAND) Terms: A Challenge for Competition Authorities", *Journal of Competition Law & Economics*, 2011, vol. 7, n. 3, p. 523-541.

[38] P. CHAPATTE, "FRAND Commitments – The Case for Antitrust Intervention", *European Competition Journal*, August 2009, vol. 5, p. 319, at p. 340 to. 343.

i) Procompetitive Effects:

1) Interoperability, which allows products from different manufacturers to work together without restrictions, leads to increased network externalities, and makes market entry easier.

2) Lower costs and prices for downstream products that contain the same core technology, which prevents duplicate R&D expenditures, and permits economics of scale;

3) Quality improvements through the pooling and selection of the best technologies;

4) Preventing customers' lock-in, at the expenses of inter standard competition (see VHS and Betamax);

5) Increased downstream competition and innovation by expanding the customer base for standard compliant products, which, in turn, accelerates the adoption of new technology and equipment, leading to greater revenue before than it would be for the inter-technology competition;[39]

6) Specifically in the EU, standards provide additional benefits related to the Treaty objective of achieving the integration of national markets through the establishment of the European Single Market.

ii) Anticompetitive Effects:

1) Elimination of intra-standard technology competition, as selecting each relevant contribution to the standard excludes the others;[40]

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[39] Nevertheless, inter standards competition (so-called standards wars) can have opposite competitive results too: Wi-Fi (developed by the Institute of Electric and Electronics Engineers Standards Association, IEEE-SA) and Bluetooth (originally developed by Ericson then supported by the Bluetooth Special Interest Group) initially competitors in the market for wireless technologies have found each its own niche; to the contrary, Blu-Ray and HD-DVD have perhaps implicated wasteful duplication of efforts.

[40] See *Allied Tube & Conduit Corp. v. Indian Head*, Inc., [1988] 486 US Supreme Court 492, where an US SSO acted as a cartel to boycott the selection of a newer plastic technology as the local standard for electric conduit.

2) Increased industry switching costs, because of the sunk investments incurred in the specialization of assets for implementing the standard;

3) Imposing innovation to keep the pace, even if a standard may be too expensive to implement.

Paragraph D Overall Assessment of Standardization

To a deeper analysis, voluntary standardization creates or enhances market power by the joint action of their members to limit competition among technologies, and agreeing on a single standard. This concerted action can be acceptable for society because it trades off technology competition against the potentially speedy and wide adoption of one efficient standard. In most cases, only the technology incorporated in the standard survives.[41] It is impossible to assess the effects of standardization under a *per se* rule of pro or anti-competitiveness. How well the standardization process works, largely depends on the structure of the SSOs involved, which becomes a factual circumstance. Accordingly, it appears necessary to examine these entities.

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[41] A. ITALIANER, Director-General for Competition, European Commission, "Shaken, not stirred. Competition Law Enforcement and Standard Essential Patents", Speech delivered at the Mentor Group in Brussels, April 21, 2015.

Chapter 2 Standard Setting Organizations

As standards have grown in importance for the global economy, so it has done the cooperative effort that lies at their formation. SSOs are industry groups that, evaluating competing technologies, set common standards in a variety of significant areas, responding to the need for better interoperability and wider adoption of technology.

Paragraph A From Protectionism to Global Markets

The first SSO was the International Telegraph Union (now International Telecommunication Union, ITU) founded in 1865; since then, the number of specific organizations whose goal is the setting of standards has risen to almost one thousand today.[42] The first SSOs were national public entities aimed at protecting local firms from foreign competitors; those early domestic SSOs, which chose specifications that protected the national champions, were both top-down governmental or quasi-governmental, or bottom-up organizations formed primarily by private industry and other stakeholders, then accredited by national bodies (e.g. American National Standard Institute ANSI). To some extent national SSOs competed with foreign SSOs in promoting their domestic standards for worldwide adoption. While independent in governance, budget and activities, national SSOs after WWII started to have multiple points of contact internationally. In fact, the International Electrotechnical Commission (IEC), ISO and ITU gathered representatives from national SSOs in their regular plenaries, multiple committees and in other working groups active in specific standards activities.

As the economy pushed for more consensus-based standardization, new international non-profit entities, where market participants voluntary meet to agree on common specifications for their industries, have spread besides the publicly recognized SSOs. Furthermore, these non-accredited SSOs have proliferated, especially in the ICT sector, ranging from small, closed vendor clubs (sometimes

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[42] For a list of SSOs and standards, see Standard Setting Organizations and Standards List, http://www.consortiuminfo.org/links.

called *consortia* or *fora*), to very large institutionalized open membership organizations with up to hundreds of participants. Usually, within each SSO, working groups are formed to reach a specific technical solution by sharing the members' know-how.

Paragraph B Types of SSOs

Ironically, there is no standard regarding the structure of the SSOs as standardization can take a variety of organizational forms. SSOs range from formal bodies with delegated public authority[43] (e.g. ANSI, IEC, ISO, ETSI) that set standards in different industries, to private industry organizations open to all interested companies, then to less structured special-purpose *consortia*,[44] whose membership is limited to the key players that crucially need to agree to develop specific standards. SSOs are, in fact, entities voluntarily created by market participants, to answer the need for compatibility through the establishment of common technical specifications. Moreover, members of SSOs have different business models as asymmetric companies form the industries involved, namely some firms are pure manufacturers, some are pure innovators, and others are vertically integrated.

SSOs may resemble other forms of collaboration between competitors like joint ventures (JVs), or collective IPRs organizations; the main similarity relates to the common subjection to Article 101 TFEU, being all horizontal agreements.[45] As opposed to JVs, the essence of cooperative standard setting is not the *ex ante* contractual sharing of

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[43] The three official European Standardization Organizations (ESO) are the European Committee for Standardization (CEN), the European Committee for Electrotechnical Standardization (CENELEC) and the European Telecommunication Standards Institute (ETSI); ESO are responsible for producing standards and specifications supporting policies of the EU and of the European Free Trade Association (EFTA), enabling the development of the European Single Market. ETSI's LTE standard was at issue in Huawei. Sometimes the EC mandates other specific SSOs to produce standards relevant for the EEA, known as European Norms (ENs).

[44] D. J. TEECE & E. F. SHERRY, "Standards Setting and Antitrust", *Minnesota Law Review,* 2003, vol. 87, p. 1913, at p. 1976.

[45] J. TEMPLE LANG, "Standard essential patents and court injunctions in the high tech sector under EU law after Huawei", *Academy of European Law*, December 3, 2015.

risks associated with specific investments or integration of operations, rather the complementary contribution of different technologies, and the expression of unified support to ignite positive feedback for a new standard. SSOs differ from collective IPRs organizations too, namely industry groups that collect IPRs from their owners and license them as a package facilitating their transaction. Examples of collective rights organizations are patent pools[46] and music licensing collectives. Patent pools are most effective when the patents pooled together are blocking, so that no one can make a given product without licenses from at least one other firm. SSOs behave like patent pools as industry participants frequently run them, but, unlike patent pools, SSOs tend to be organized around technical outcomes, without being too worried about licensing. By contrast, patent pools are formed around patents, and often have little technical content beyond that necessary to determine appropriate royalty rates. SSOs' policies governing the use of IPRs tend to be set *ex ante*, while patent pools more often allocate their rights *ex post*. Because SSO members generally ignore whether they will be patentee or licensee of any particular IPR, the IPR policy is more likely to be bargained and drafted evenhandedly.

Paragraph C SSOs' Functioning and Governance

Generally, SSOs start up when a given market needs to make its products compatible. Market participants, as founding members of an SSO, at the time of its establishment define the rules of procedures in the by-laws or statute, as they think it best fits them, since freedom to contract applies, being a private ordering arrangement. In practice, SSO members organize the standardization agenda along different working groups, where participants' representatives, usually engineers, democratically choose from multiple available technologies that offer alternative approaches to solve each technological issue, which the standardization addresses. Approval of standard requires the members'

[46] Nobel laureate Jean Tirole defines patent pool as an agreement among patentees to license a set of their patents to one another and/or to third parties. See J. LERNER AND J. TIROLE, "Efficient Patent Pools", *American Economics Review*, 2004, vol. 94, p. 691.

consensus, largely expressed through majority rules, where voting rights are proportionate to annual turnover; in this way, non practicing entities (hereinafter NPEs) such as University or public research bodies account for a smaller percentage of voting power than market players active in the downstream market. Members' participation fees, which are also proportionate to turnover, feed the budgets of SSOs. Supermajority requirements might be requested for including patents in a standard; whether or not a SSO allows for the standard to read on a proprietary technology or requires royalty free commitments determines if the standard is open or closed.[47]

In effect, it is clear that SSOs, allowing all industry participants competitors included, to meet and exchange sensitive business information, raise risks of collusion. To address this concern, the EC has extensively treated voluntary standardization in its Horizontal Guidelines.

Paragraph D SSOs' Treatment under Competition Law

The EC's Guidelines on the applicability of Article 101 TFEU to horizontal co-operation agreements dedicates its entire seventh section to Standardization Agreements,[48] clarifying that their assessment under EU competition law follows a rule of reason approach. Paragraph 257 states that *standardization agreements 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*.

Four requirements, set by paragraph 280, must be fulfilled by an SSO not to fall within Article 101(1) TFEU: i) participation must be unrestricted; ii) the standard must be adopted through a transparent procedure; iii) compliance with the standard must be elective; and iv) access to the standard must be granted at FRAND terms. Open participation is indeed provided by all major SSOs, except small and closed *consortia*, whose market shares do not usually raise

[47] See Annexes, Table 2 ETSI Voting Rights Allocation.

[48] Guidelines on the applicability of Article 101 TFEU to horizontal co-operation agreements [2011] OJ C 11/1.

anticompetitive concerns. The transparency of each standardization procedure depends on the tenor of the SSOs' by-laws; because of the involvement of all market participants, the presence of both supply and demand sides of the standard likely discourages biased by-laws. Moreover, since the entire standardization process is voluntary, and withdrawal is always an option, compliance with the adopted standard doesn't need to be imposed from the top-down but it emerges from consensus. Following the last requirement, if the would-be standard reads on proprietary technologies, the SSO must adopt an IPR policy providing either for good faith disclosure plus FRAND licensing commitments, or royalty free licensing commitment alone, to ensure effective access to the standard. Overall, it seems that when the choice of a standard is made in a transparent and fair way, the EC considers that any potential restriction of competition is usually outweighed by the countervailing economic benefits.[49]

The cartel concerns with regard to SSOs could appear blatant considering what the original sin of antitrust was, according to Professor Motta:[50]

Trust was originally a device by which several <u>corporations engaged in the same general line of business might combine for their mutual advantage, in the direction of eliminating destructive competition, controlling the output of their commodity</u> and regulating and maintaining its price, but at the same time <u>preserving their separate individual existence, and without any consolidation or merger</u>. This device was the <u>erection of a central committee</u>… (Emphasis added)

The identity is broken only by the absence of any price discussion at SSO meetings. However, while SSOs may in principle act collusively, in practice the most relevant anticompetitive risks have been raised by

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[49] G. PIESIEWICZ & R. SCHELLINGERHOUT, "Intellectual property rights in standard-setting from a competition law perspective", *Competition Policy Newsletter*, 2007 n.3.
[50] Professor Motta uses the West's Law and Commercial Dictionary definition (1988). M. MOTTA, "Competition Policy: Theory and Practice", 2004 (Cambridge University Press), at p. 1-2.

unilateral behaviors of undertakings, whose patents were read on by the standard, as in *Huawei/ZTE*.

Chapter 3 Standard Essential Patents

Standards adopted by an SSO may rely on technology in the public domain or proprietary in nature. Most frequently, in order to provide the best and newest technical solutions, industry standards deliberately include technologies covered by patents.

Paragraph A Competition Before and After Standardization

Prior to the adoption of a standard, many technologies may compete for inclusion into the standard; but once a technical standard is set and reads on patented technologies, those patents become essential (SEP) to implement the standards, because to make standard-compliant products everyone must use them.[51] After the adoption of a standard, the chosen technology normally lacks substitutes.[52] Accordingly, SEP-owners can expect high revenue stream from licensing their patents, especially for broadly implemented standards such those in the ICT sector.[53]

When a standard reads on proprietary technology, there are two relevant markets: one for the standard compliant products (the output market) and the other for the standard related technology (technology/input market).[54] The demand for the standardized

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[51] In this sense, see J. LERNER AND J. TIROLE, "*Standard-essential Patents*", Working Paper no. 19664, *National Bureau of Economic Research*, Cambridge, MA, 2013, where the authors define the standard technology as putty-clay, namely totally malleable before the standard is set, but rigid afterwards.

[52] M. MARINIELLO, "European Antitrust Control and Standard Setting", *Bruegel Working Paper,* 2013, n. 1.

[53] This expectation has been matched by recent acquisitions of patent portfolios such as CPTN Holdings (Consortium of technology companies including Microsoft, Apple, EMC and Oracle) $450 million purchase of 800 Novell patents previously owner by Nortel Network, as well as Google's acquisition of Motorola Mobility for $12.5 billion (with a patent portfolio of some 17,000 patents) whose trademark was subsequently sold to Lenovo for $2.91 billion. See P. NEROTH, "EU Intervenes in Patent Dispute Between US Titans", *Engineering & Technology,* June 2013.

[54] Guidelines on the applicability of Article 101 TFEU to horizontal co-operation agreements [2011] OJ C 11/1, para 261.

technology derives from the demand for the standardized products.[55] Because SSOs host all industry participants, both supply and demand sides for technology and standard markets are present, potentially producing conflicts of interests. SEPs holders need to be remunerated, while implementers must have access to the technology embodied in the standard. Thus, SSOs must balance the interests of patentees and licensees; on the one hand, the latters are likely to outnumber the former as a patent has only one owner, but multiple manufacturers may need to use the patented technology; on the other hand the patentee has the statutory right to exclude others from practicing its patent. In this context, because only those patents inserted in the standard will raise conflicts of interests, the distinction between SEPs and non-SEPs appears critical, and it becomes a matter of essentiality.

Paragraph B Patents Essentiality and Industry Lock-in

ETSI in Annex 6 of its rules of procedure at paragraph 15.6 states that:

*"**ESSENTIAL**" as applied to IPR means that it is not possible on technical (but not commercial) grounds, taking into account normal technical practice and the state of the art generally available at the time of standardization, to make, sell, lease, otherwise dispose of, repair, use or operate EQUIPMENT or METHODS which comply with a STANDARD without infringing that IPR.*

The essential status of a patent arises within the working groups during the standardization process, as a self-certification by the patentee. SSOs do not provide any patent review or verification as to the technical essentiality[56] or validity of the declared patents. For the SSOs, in fact, it

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[55] See M. R. PATTERSON, "Antitrust and the Costs of Standard-Setting: A Commentary on Teece & Sherry", Minnesota Law Review, 2003, vol. 87, p. 1995.
[56] Guidelines on the application of Article 101 TFEU to technology transfer agreements [2014] OJ C 89/3, para. 252 in the context of technology pools enlarges the notion of essentiality to comprehend commercial essentiality. SSOs haven't adopted such a broad definition, since members do not want the standards to include and subject to FRAND terms their commercially essential patents, which may give their owners significant competitive advantages.

is unfeasible to conduct a costly search for the possible essential patents that may cover the technology that will be incorporated in the standard.[57] Moreover, limited staff and resources impose to rely on the members' declarations. Any disputes on essentiality can be challenged only through a separate adjudication on the validity and infringement of the patent, in front of the competent national court; therefore an SEP is presumed valid like any other patent, and essential as declared by its owner, until a court decides otherwise.[58]

Because adoption of a standard, by definition, eliminates competition from alternative technologies,[59] a patent declared essential to the implementation of a standard, and then incorporated in it, may have a much higher value after standardization than before it, when alternative technologies existed. Firms have an incentive to over declare SEPs to profit from the inclusion of their patents into the standards, raising their expectations of revenue from licensing.[60] A widely accepted standard imposes compliance as a matter of commercial necessity, as failing to comply would render a product incompatible with other companies' products, and therefore unmarketable. This phenomenon creates a lock-in effect, whereby standard implementers must use the SEPs that are incorporated into the standards they implement. Lock-in derives from the sunk nature of two kinds of investments. First, before the standard is set all firms have incurred R&D expenditures and switching away from the standard would require duplication of such R&D investments. Second, the choice of a standard based on particular technologies may stimulate other specific sunk investments, such as learning the techniques involved, adapting plant and equipment and costly marketing campaigns to create buyer awareness. Both sunk R&D costs and standard-specific

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[57] J. L. CONTRERAS & A. UPDEGROVE, "A Practical Guide to Patent Policies of Standards Development Organizations", *Standards Engineering,* 2015, vol. 67, n. 6.
[58] J. G. SIDAK, "Evading Portfolio Royalties for Standard-Essential Patents through Validity Challenges", *World Competition*, 2016, vol. 39.
[59] J. KATTAN & C. WOOD, "Standard-Essential Patents and the Problem of Hold-Up", December 19, 2013.
[60] See M. DEWARTRIPONT & P. LEGROS, "'Essential' Patents, FRAND Royalties and Technological Standards", *The Journal of Industrial Economics,* December 2013, vol. 61, n. 4 0022-1821.

investments exacerbate the lock-in effect, rendering switching to alternative technologies unprofitable. The need for backwards compatibility and the length of patent protection extend the lock-in effect more than it would be imposed by the pace of technological change and product life cycle.[61]

Inclusion of patents into a standard greatly strengthens the bargaining position of a SEP holder relative to potential licensees, because of the lock-in effect of standardization. However, assessing the patentee's market power also involves considering other factors such whether *ex ante* there were alternatives as regards the technology to be included in the standard, and the overall importance of the standard in the market. Provided market power is present, the SEP-holder could be tempted to exploit it misusing its SEPs.[62]

Paragraph C Patent Hold-up, Hold-out and Their Cumulative Effects

Further than the implicit exclusionary nature of patent rights,[63] standardization can directly confer to SEP-holders a degree of market

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[61] For an opposite view see D. J. TEECE & E. F. SHERRY, "Standards Setting and Antitrust", *Minnesota Law Review*, 2003, vol. 87, p. 1913, at p. 1941; or, S. VEZZOSO, "The Use Standard Essential Patents: Competition Policy Issues", *XIV International Academic Conference on Economic and Social Development*, National Research University 'Higher School of Economics', Moscow, April 2013.

[62] Nonetheless, not everything is about SEPs; in the relevant market there could be commercially important patents that are not SEPs. Indeed, patent portfolios include non-essential patents either just supporting SEPs or having a role of their own in differentiating standardized products to compete more effectively. A patent may be essential to an optional mode specified by the standard but not used by the product, or the product may implement a non-standard solution to solve a technical issue otherwise covered by an SEP. A patent that is essential to a standard may in fact not be essential to compete on the downstream device market e.g. Apple's Lightning cable compared to the Micro-USB one.

[63] Directive 2004/48/EC of the European Parliament an of the Council of 29 April 2004 on the enforcement of intellectual property rights OJ L157/45. IP, as a form of property, defines rights that avail against others generally; such definition of the content and scope of the property right facilitates also its sale and license; see H. E. SMITH, "Property as Platform: Coordinating Standards for Technological Innovation",

power deriving from the lock-in effect. Accordingly, after the standard is set, the SEP-holder could seek to extract a higher payment than it was attributable to the value of the patented technology before the standard was set, appropriating a larger share of the overall value of the standard. The money at stake for the firms involved in developing and commercializing standards means the risk of opportunistic behaviors is high. Indeed, scholars, courts, and regulators have vastly addressed possible opportunistic uses of SEPs. To those who advocate the risk of strategic behavior from the patentee, namely i) patent hold-up, others counter argue the opposite risk from licensees that is ii) patent hold-out. Both parties then, considering the dimensions of standardization and SSOs, propose that hold-up and hold-out could escalate, because of their cumulative effects, to royalty stacking and licensees' cartels, respectively.[64]

i) Patent Hold-up and Royalty Stacking

Once a patent is included into a standard and becomes a SEP, its value increases because of the essentiality to practice the standard. Due to the lock-in effect, a SEP-holder can hold-up standard implementers either by refusing to license its SEP, or asking licensing terms corresponding not to the intrinsic value of the patent, but to the added value conferred by standardization itself.[65] Hold-up is possible because after standardization, the SEP-holder doesn't face competition for its SEP;[66] the SEP-holder can demand outsized licensing conditions. Often, as in *Huawei/ZTE*, backed up by threats of injunctive relief,[67] since,

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Journal of Competition Law & Economics, 2013, vol. 9, n. 4, p. 1057-1089, at p. 1060.

[64] See Annexes, Table 3 1994 – 2013 Mobile Device Manufacturing Industry.

[65] M.A. LEMLEY & C. SHAPIRO, "Reply: Patent Holdup and Royalty Stacking", *Texas Law Review*, 2007, vol. 85.

[66] M. MARINIELLO, "European Antitrust Control and Standard Setting", *Bruegel Working Paper,* 2013, n. 1.

[67] In the US in addition to courts' injunctions, exclusion orders from the International Trade Commission (ITC) can be sought to ban the importation of foreign products infringing US patents. The divergence of conditions and procedures has raised forum-shopping issues, and ultimately in August 2013 has brought the US President, through

without a license, implementers infringe the patent. Because SSOs' working groups, when evaluating technologies to be included in the standard, consider if these are proprietary and what the relative cost for implementing the standard would be,[68] patentees, in order to gain hold-up power from their essential patents, have engaged in so-called 'patent ambush'. This practice consists of, first deceptively concealing the existence of patents to let the standard involuntary read on them.[69] When the lock-in effect is produced, patentees ask for royalties higher than would have been except for their acquired essentiality. Based on hold-up, scholars advance the royalty stacking argument,[70] because most standards read on many SEPs of different owners, the cumulative royalty payments for all SEPs read by the standard can become excessive and discourage the diffusion of the standardized technology.[71]

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the US Trade Representative (USTR), to veto the enforcement of an exclusion order, considering the negative effects it would have on competitive conditions in the US economy and on consumers. See T. F. COTTER, "Comparative Law and Economics of Standard-Essential Patents and FRAND Royalties", *Texas Intellectual Property Law Journal*, 2014, vol. 22, p. 311, at p. 321-322.

[68] In this sense see ETSI IPRs Policy Rule 8 Non-availability of licenses.

[69] Patentees can also exploit the gap between the publicity of issued patents, and the secrecy of patent applications, which are published only eighteen months after filing date, yet they enjoy priority over later developed technology. Patent continuation also permits to modify patent claims until the patent is pending, while patent ever-greening even after issuance; see H.J. HOVENKAMP, "Competition in Information Technologies: Standard-Essential Patents, Non-Practicing Entities and FRAND Bidding", *University of Iowa Legal Studies Research Paper*, November 2012, n. 12-32, p. 6.

[70] The royalty stacking theory builds upon Cournot's complements problem (or 'tragedy of the anti-commons'), whereby a common resource can be used only if each individual gatekeeper grants its permission, hence preventing the resource from being used, so stifling innovation.

[71] Against the prediction of royalty stacking, a recent empirical study shows that, between 1994 and 2013, the average selling price of a mobile phone fell 8.1% per year on average, while the number of devices sold yearly rose 62 times or 20.1% per year on average; the number of device manufacturer passed from one in 1994 to 43 in 2003. See A. Galetovic & K. Gupta, "Royalty Stacking and Standard Essential Patents: Theory and Evidence from the World Mobile Wireless Industry", *Stanford University Hoover IP2 Working Paper Series,* May 1, 2015, n. 15012.

ii) Patent Hold-out and Licensees Cartels

Here, the licensee obtains from the licensor rates lower than expected ex ante for a successful innovation.[72] This may appear counterintuitive, since we generally assume that the monopoly nature of patents plus the essentiality deriving from standardization confer on the SEP-holder *ipso facto* market power over prospective licensees.[73] However, in license negotiations[74] facing a patentee that is an individual inventor against an implementer that is a multinational firm, the market power may well weigh in favor of the latter.[75] Hold-out behavior involves the so called 'wait and see' strategy, under which patent users decide to free ride not seeking a license, and to infringe on the patent, at the risk of being caught; even if the infringement is noticed, small and financially weak patentees might prefer to agree on disadvantageous licensing terms, instead of experiencing expensive and time consuming patent infringement litigation.[76] Moreover, the SSO's structure might facilitate collusive hold-out strategies, where all the implementers act as licensees' cartel exercising monopsony power; before the standard is set, SSO members could jointly negotiate licenses threating to cut-off the

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[72] M. MARINIELLO, "European Antitrust Control and Standard Setting", *Bruegel Working Paper*, 2013, n.1.

[73] R. WHISH AND D. BAILEY, "The relationship between intellectual property rights and competition law", chapter 19th in "Competition Law", 6th edition, Oxford University Press (2009).

[74] Bilateral negotiations of patent licenses mainly concern the level (i.e. royalty rate per royalty base) and the method of calculation of the royalties (one-time lump sum, or on-going, running royalties), and whether cross-licenses, no-challenge and termination clauses are included.

[75] M. MARINIELLO, "European Antitrust Control and Standard Setting", *Bruegel Working Paper*, 2013, n.1.

[76] Hold-out theory is used as a rationale for Patent Assertion Entities (PAEs), also known as patent trolls, organizations whose primary or sole activity is the collection of patents and subsequently assertion against target implementers. Because PAEs do not manufacture, they are not constrained by any need to obtain cross-licenses, so they mine and monetize patents by collecting the maximum possible royalties through licenses or settlements and by winning patent damage awards in court.

patentee's technology from the standard by manipulating the standardization process.[77]

Paragraph D Proposed solutions

Although the hold-up and hold-out hypotheses occupy many pages of scholarship, in practice voluntary standardization has not experienced any shortcoming so far, and it appears to work quite well. Indeed, lack of evidence about strategic behavior from SSOs opposite members can be explained by self interest, namely the SEP holders and implementers both lose with hold-up and hold-out so they have an incentive to find ways to prevent them.[78] Actually, problems of overlapping IPRs that must be hacked through in order to successfully commercialize new technology are not confined to the most standardized ICT sector, but rather common across industries where standardization is less intense, such as the biotechnology or pharmaceutical fields. Market participants have developed different contractual and commercial tools to navigate this patents thicket.[79] Cross licensing agreements are often used when two companies have patents that may read on the other's product or processes; indeed, licenses are mostly negotiated on a patent portfolio basis through cross licenses, and where one portfolio is valued more than the other the firms agree on balancing payments.[80] When patent disputes arise, because litigation is expensive, time consuming and uncertain, firms usually opt for quicker settlements granting each other access to their portfolios. Another way to contract around hold-up and hold-out is by patent pools, namely joint marketing alliances where

[77] See Annexes, Table 4 Patent Strategic Behavior.

[78] P. LAROUCHE & N. ZINGALES, "Injunctive Relief in Disputes Related to Standard-Essential Patents: Time for the CJEU to Set Fair and Reasonable Presumptions", *TILEC Discussion Paper,* December 2014, n. 48.

[79] C. SHAPIRO, "Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard Setting", in A.B. Jaffe et al. "Innovation Policy and the Economy", vol. 1, p.119-150 MIT Press, January 2001.

[80] Cross licensing solutions tend to work better between large vertically integrated firms with broad patent portfolios. See K. KÜHN, "Justifying Antitrust Intervention in ICT Sector Patent Disputes: How to Address the Hold-Up Problem", *Competition Policy International,* Autumn 2013, vol. 9, n. 2, at p. 106.

patentees share their patent rights with each other and third parties.[81] Under a patent pool, an entire group of patents is licensed in a package, either by one of the patentees, or by a new entity established for this purpose, providing a one-stop shop for any prospective licensees, and reducing transaction costs. Regarding more strictly the voluntary standardization process, its repeat player nature should moderate the behavior of SSOs participants. Seeking excessive licensing terms and free riding could be both dissuaded, as the reputational effects of such conducts could create an incentive among other participants either to exclude the SEP holder's technologies from future standards, or to recur to patent privateering[82] to retaliate against bad faith licensees. Finally, the most effective proxy endorsed by SSOs against any sort of patent strategic behavior has been the adoption of policies to govern the use of SEPs.

[81] J. LERNER, M. STROJWAS AND J. TIROLE, "The design of patent pools: the determinants of licensing rules", RAND Journal of Economics, 2007, vol. 38, n. 3, p. 610-625.

[82] Privateers are NPEs to which a patentee transfers its patents so that the transferee can seek to enforce them against the owner's competitors, free from any need to seek cross-licenses or exposure to counter-suit. See J.T. LANG, "Standard essential patents and court injunctions in the high tech sector under EU law after Huawei", *Academy of European Law,* December 3, 2015.

Chapter 4 SSOs Intellectual Property Rights Policies

SSOs IP policies are a form of private ordering, as patent pools or cross licensing, that enable market participants to collectively contract around initial entitlements of IP rights. Since the main goal of voluntary standardization is the success of a standard, SSO have implemented IPR policies to facilitate the most efficient licensing of SEPs.

Paragraph A Enforceable No One-Size Fits All Approach

The first IPRs policies created and adopted were high-level statements of principles, lacking implementation details. Originally, the obligations these policies disposed were not uniform and varied vastly from SSO to SSO.[83] However, since participation in SSOs is voluntary, SSOs within the same industry have competed to attract as many market players as possible, mainly through these policies. The result of this inter SSO competition has been the emergence of few market-approved obligations now recurrent in most SSOs and even suggested by antitrust authorities to dissipate anticompetitive risks.[84] Furthermore, prominent SSOs like ITU, ISO and IEC have established a common IPRs policy. The underlying concern in drafting these policies has been to avoid patent hold-up, while hold-out has received less attention. Two set of rules generally, although varying in scope, pend on SSO members: disclosure rules and licensing rules.[85] However, before examining these duties in the next two paragraphs, their enforceability must be assessed, because rules are only effective if actionable.

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[83] M. A. LEMLEY, "Intellectual Property Rights and Standard-Setting Organizations", *California Law Review*, 2002, vol. 90, p. 1889-1980.

[84] Guidelines on the applicability of Article 101 TFEU to horizontal co-operation agreements [2011] OJ C 11/1, para. 284. Insofar the Guidelines are soft law, compliance with their suggestions means compliance with Article 101 TFEU as viewed by the EC.

[85] See Annexes, Table 5 Main Rules of SSOs' IPRs Policies.

IPR policies become binding on members as a matter of contract law [86] through either specific signed contracts, or incorporation by reference in the by-laws. In both common and civil law systems, contract law distinguishes between parties to a contract, here the SSO and each subscribing member, third party intended beneficiaries which must be identifiable at the time of performance of the contractual obligation, namely the implementers members of the SSO, and incidental beneficiaries that are non members. Parties to a contract and third party intended beneficiaries may both enforce contracts, while incidental beneficiaries may not. Problems in enforcing the IPR policies' obligations can thus rise for non-members who still may have an interest with respect to those duties. Because of this contractual nature, one member can manipulate the system by, first actively participating within working groups to tilt the technical specification over its proprietary technology, then strategically withdrawing its participation not to be bound by the IPR policies during the license negotiations of its SEPs. Where contract law has shown its flaws courts have stepped in, applying diverse legal doctrines to adjudicate disputes between the parties; at the same time antitrust authorities have shown their inclination to police deviations from SSOs IPR policies. In this uncertain legal chorus, the CJEU has been called to bring its voice with the preliminary ruling on *Huawei/ZTE*.

Paragraph B Voluntary Search and Disclosure Commitment

The first type of duties stemming from the IPRs policies on SSOs members is the duty to disclose, during the standardization process (i.e. prior of standard adoption), any potentially essential patent the future standard may cover. Rule 4.1 of ETSI IPRs Policy specifies the disclosure requirement for ETSI members:

[86] In the EU, contract law is left to the competence of Member States; in the US similarly, contracts are regulated at the States' level, not at the federal one.

4.1 …each MEMBER shall use its reasonable endeavours, in particular during the development of a STANDARD or TECHNICAL SPECIFICATION where it participates, to inform ETSI of ESSENTIAL IPRs in a timely fashion. In particular, a MEMBER submitting a technical proposal for a STANDARD or TECHNICAL SPECIFICATION shall, on a bona fide basis, draw the attention of ETSI to any of that MEMBER's IPR which might be ESSENTIAL if that proposal is adopted.

The rationale of the duty to disclose is to enable working groups to take informed decisions regarding the open or proprietary nature of the standard they adopt. Because of the exclusive nature of patents, if a SEP is discovered after a standard is set, there is a risk that the SEP-holder would prevent the diffusion of the standard, wasting the standardization effort; moreover, because of the lock-in effect, it may be too expensive and time-consuming to restart the standardization process in order to avoid the proprietary technology.[87] Disclosure thus is doubly beneficial; it prevents hold-up in the form of patent ambush,[88] and also it helps obviating the royalty-stacking problem since the working group can forecast what, more or less, the cumulative royalty burden will be for all the disclosed SEPs. SSOs vary regarding the disclosure scope, which may encompass any IPR, although more often is limited to issued patents. Considering that patent protection starts from the deposit of the patent application, an effective duty to disclose should encompass pending patent applications too; yet, such a duty contrasts with the

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[87] In this sense standardization rises both entry and exit barriers, since standard implementers must obtain a license for all SEPs concerned, and once implemented switching from it becomes unfeasible.

[88] See Case COMP/38636 *Rambus* Commission Commitment Decision. Rambus is the leading case for patent ambush relating to RAM, a *de consenso* standard adopted by JEDEC; after a complaint set forth by a number of DRAM manufacturers, Rambus Inc. was investigated by the EC for abusing its dominant position, as in the absence of patent ambush it would not have been able to ask the royalty rates it then required. The EC adopted an Article 9 regulation 1/2003 commitment decision providing for a five-year cap on the royalty asked by Rambus.

secrecy of those applications, which are normally not disclosed to the public until eighteen months after deposit.[89]

Within the duty to disclose is the implicit duty to search a firm's own inventory for relevant patents. Patent searches are expensive and time consuming when the relevant patent portfolios include hundreds of patent families and thousands of patents; because of the risk of excessively slowing down the standardization process most SSOs do not impose a duty to search; for instance, ETSI liquidates it as follows:

The obligations pursuant to Clause 4.1 above [disclosure] do however not imply any obligation on MEMBERS to conduct IPR searches.

In practice, at the time of setting the standard, it might be unclear whether the standard covers one's patent, or alternatively, whether one's patents read on a standard, since patent claim construction is a complex and uncertain legal inquiry. Indeed, essentiality can be hard to define as both terms of comparison are moving targets: standards are not defined until voted upon, and patents are doubly uncertain as their claims may vary during their application, and even when finally issued their scope is a subjective judgment. Considering those difficulties, the EC's Horizontal Guidelines at para. 286, while stating the competitive importance of a good faith duty to disclose, provides an alternative, namely a commitment to license SEPs on a royalty-free basis. Some SSOs that develop open standards have adopted royalty-free only IPR policies; other SSOs impose royalty-free licensing burdens as a penalty when participants fail to disclose relevant SEPs.

Not every firm has a business model that can bear no licensing revenue for its patents; indeed no-royalty arrangements discriminate between undertakings. Pure manufacturers completely benefit from not having to pay any royalty for the products they make; vertically integrated firms, having both patent portfolios and downstream products can forego royalties because in this way they reciprocally lower costs of production, while recouping in the product market; instead, pure

[89] Patents that take long time to work their way through the patents office are called in jargon submarine patents.

innovators, who only market the technology they develop, live on royalties. Royalty-free policies, while statically pro-competitive, could discourage dynamic competition removing incentives to innovate.

In sum, neither the disclosure duty nor royalty-free commitment alone can efficiently solve the licensing problems arising from standardization. Here the FRAND commitment becomes necessary, permitting SSOs members to focus on technical issues, worrying about the price later.[90]

Paragraph C Voluntary Commitment to FRAND terms:

The FRAND licensing commitment is the keystone of the voluntary standardization arch. It ensures effective access to the standard, together with remuneration for the use of SEPs. Behind standard setting lies an exchange between patentees and the SSO: in consideration for the inclusion of the patent into the standard, the patentee surrenders a substantial part of its rights, namely the right to exclude others, intended both in its physical and financial facets. Access to a FRAND-encumbered SEP must be granted on a non discriminatory-basis for fair and reasonable terms. The SEP holder who has committed to FRAND licensing terms cannot restrict the access to its SEP, nor can he demand whatsoever licensing terms. A would-be standard-implementer, who can afford a fair and reasonable license, must be granted access to FRAND-encumbered SEPs. The *quid pro quo* of FRAND for SEPs is not disproportionate when considering that the SEP-holder gains the possibility to obtain reasonable royalties from a large body of standard implementers. Large-scale licensing compensates for the constraint on price. FRAND terms ensure the voluntary dissemination of the standard at advantageous fees to licensor and licensee simultaneously, providing the incentive for innovative activity because inventors are remunerated, and faster dissemination and utilization of the standard because implementers have unrestricted

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[90] Scholarship stresses that SSOs' working groups are attended by firms through representatives, whose technical training is in some area other than law.

access. As a result of FRAND terms, the standardization is a win-win situation, where the externalities of innovations are internalized by making sure the innovator does well by doing good.[91]

The FRAND commitment, developed as practice of the SSOs, has been welcomed by the EC's Horizontal Guidelines whose para. 285 states

…the IPR policy would need to require participants wishing to have their IPR included in the standard to provide an irrevocable commitment in writing to offer to license their essential IPR to all third parties on fair, reasonable and non-discriminatory terms (FRAND Commitment). That commitment should be given prior to the adoption of the standard…(Emphasis added)

SSOs vary in the ways they require their members to commit to FRAND terms; source of the obligation is provided either once and for all by the SSOs by-laws, and membership implies its acceptance by reference, so that any SEP disclosed is a FRAND-encumbered one; or on a case-by-case basis through unilateral statements, sometimes called Letters of Assurance, [92] where a member altogether discloses its potentially essential patents and commits to FRAND licensing terms.[93] Of course, both contractual methods are voluntary, so patentees can

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[91] D.G. SWANSON AND W.J. BAUMOL, *"Reasonable and Non-discriminatory (RAND) Royalties, Standards Selection, and Control of Market Power", Antitrust Law Journal,* 2005, vol. 73, n. 1, at p. 51 to 56.

[92] Institute of Electric and Electronics Engineers Standards Association (IEEE-SA) Standards Board Bylaws Rule 6.2.

[93] ETSI IPRs Policy Rule. 6 *Availability of licenses:*
6.1 When an ESSENTIAL IPR relating to a particular STANDARD or TECHNICAL SPECIFICATION is brought to the attention of ETSI, the Director-General of ETSI shall immediately request the owner to give within three months an irrevocable undertaking in writing that it is prepared to grant irrevocable licences on fair, reasonable and non-discriminatory ("FRAND") terms and conditions under such IPR to at least the following extent: manufacture, ... sell, lease, or otherwise dispose of equipment so manufactured; repair, use, or operate equipment; and use METHODS. The above undertaking may be made subject to the condition that those who seek licences agree to reciprocate.

avoid the FRAND commitment providing appropriate declaration prior to the adoption of the standard; indeed, a mandatory FRAND commitment contrasts with IP law and it could hide an anticompetitive collusion with regards to license prices. As long as the patentee excludes the FRAND commitment at an early stage in the development of the standard, the working group can make an informed decision on whether or not to include that non-FRAND patent into the standard, by looking for alternative technological solutions, and balancing the benefits of the inclusion against the risk of hold-up.[94]

Once given, as the EC's Horizontal Guidelines specify, the FRAND commitment is irrevocable;[95] notwithstanding irrevocability, SEPs owners have tried to circumnavigate their commitment, to hold-up implementers by selling their FRAND-encumbered SEPs to buyers not participating in the relevant SSO; '*unFRANDly'* licensing terms have subsequently been sought against standard-implementers who were relying on the original FRAND commitment. This happened in the *IPCom* case:[96] in June 2008 Nokia filed a complaint to the EC against IPCom, who had purchased Bosch's FRAND-encumbered SEPs portfolio, alleging that IPCom was abusing its dominant position by asking excessive royalties in breach of Bosch's FRAND commitment. In December 2009, IPCom announced it was ready to maintain Bosch's commitments to grant FRAND licenses; because Nokia withdrew its compliant, the EC decided not to send any Statement of Objections (hereinafter SO) to IPCom.[97] Now, paragraph 285 of the Horizontal

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[94] ETSI IPRs Policy Rule 8.

[95] Withdrawal from SSOs has only pro futuro effects, not affecting already FRAND-encumbered SEPs, namely licensing obligations continue beyond the termination of the member's relationship with the SSO.

[96] Case COMP/38636 *IPCom* Commission Press Release December 10, 2009 MEMO/09/549.

[97] See M. MARINIELLO, "European Antitrust Control and Standard Setting", *Bruegel Working Paper,* 2013, n. 1. IPCom is line with the EC's reluctance to police prices, since withdrawn Nokia's complaint, the investigation was not even officially opened. Statement of objections are formal step in EC investigations, whereby the concerned parties are informed in writing of the objections raised against them; the parties can

Guidelines requests SSOs IPRs policies to ensure the FRAND commitment runs with the patent, like a property servitude, regardless of its change of ownership.[98]

Regarding the rationale of the FRAND licensing terms commitment, it is widely accepted that it coincides with the prevention of hold-up by SEP-holders that would make the implementation of the standard difficult, through either refusing to license, or requesting unfair or unreasonable or discriminatory fees, after the industry has been locked in. In practice license terms are bilaterally and confidentially negotiated outside the SSOs,[99] since it is thought that what a FRAND license is, could be best determined by the interested parties in arm's length bargaining. If the negotiation breaks down, and a dispute over the licensing terms arises, its adjudication is a matter for courts or ADR mechanisms,[100] where the conduct of the negotiating parties will be

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reply in writing and request an oral hearing to present comments. The EC takes a final decision only after the parties have exercised their rights of defense.

[98] For a practical application see ETSI IPRs Policy Rule. 6.1bis Transfer of ownership of ESSENTIAL IPR: FRAND licensing undertakings made pursuant to Clause 6 shall be interpreted as encumbrances that bind all successors-in-interest. Recognizing that this interpretation may not apply in all legal jurisdictions, any Declarant who has submitted a FRAND undertaking according to the POLICY who transfers ownership of ESSENTIAL IPR that is subject to such undertaking shall include appropriate provisions in the relevant transfer documents to ensure that the undertaking is binding on the transferee and that the transferee will similarly include appropriate provisions in the event of future transfers with the goal of binding all successors-in-interest. The undertaking shall be interpreted as binding on successors-in-interest regardless of whether such provisions are included in the relevant transfer documents.

[99] Avoidance of licenses discussions also reflects fear of antitrust scrutiny under Article 101TFEU.

[100] Scholars have suggested SSOs to specifically require ADR in their by-laws. See M. A. LEMLEY & C. SHAPIRO, "A Simple Approach to Setting Reasonable Royalties for Standard-Essential Patents", *Berkeley Technology Law Journal*, 2013, vol. 28, p. 1135. For dissenting views see: J. G. SIDAK, "Mandating Final-Offer Arbitration of FRAND Royalties for Standard-Essential Patents", *Stanford Technology Law Review*, 2014, vol. 18, n. 1; or P. LAROUCHE, J. PADILLA & R. S. TAFFET, "Settling FRAND Disputes: Is Mandatory Arbitration a Reasonable and Nondiscriminatory Alternative?", *Journal of Competition Law and Economics*, 2014, vol. 10, p. 581.

assessed in light of the FRAND commitment, which requires more than simple good faith.

The content of FRAND, although broadly worded, guides judges when assessing such disputes over licensing terms. Two strands are individuated when evaluating if an offer matches the FRAND requirement: i) fair and reasonable (FR) strand and ii) non-discriminatory (ND) one.[101]

i) Fair and Reasonable Licensing Terms

These two qualities tie the licensing terms to the economic value of the IPR.[102] The value conferred by the patent itself is generally viewed as the amount that the SEP holder could have received from licensing before the adoption of a standard, when the patent still faced open up-front competition from alternative technologies, i.e. *ex ante* value.[103] By committing to fair and reasonable terms, the SEP-holder gives away its right to charge locked-in standard-implementers for the hold-up value that its patent has acquired as a result of its inclusion in the standard.[104] The rationale in FR is not to regulate pricing, but rather, to ensure the commercial viability of the standards.

ii) Non-Discriminatory Licensing Terms

The second strand of FRAND ensures the openness of standards that read on proprietary technologies. Non-discriminatory terms do not

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[101] Geradin suggests that the FRAND commitment reflects the requirements of Article 102(a) TFEU with its FR part and Article 102(c) with the ND part.

[102] See Case C-27/76 *United Brands Company v Commission* EU:C:1978:22, para. 250.

[103] A fair and reasonable license for a patent that lacked substitutes at the time of its inclusion into the standard is higher than a fair and reasonable license for which substitutes existed. However, sometimes can be hard to distinguish the effect on prices due to the restriction of competition from the effect due to the quality of the new technology.

[104] Some scholars separate "Reasonable" and "Fair", the first being related to royalty rates, and the latter to other licensing terms; see S. BARAZZA, "Licensing standard essential patents, part one: the definition of F/RAND commitments and the determination of royalty rates", *Journal of Intellectual Property Law & Practice,* 2014, vol. 9, n. 6, at p. 471.

require SEP-holders to license to anyone as this would amount to compulsory licensing; nor do they impose licensing to all parties with the same terms,[105] but rather to license similarly situated adopters (i.e. competitors) on same terms. However, comparisons of SEPs licenses might be difficult since they often are confidential and complex contracts providing for licensing know-how, non-SEPs or cross-licenses too.

Overall the FRAND licensing terms commitment works as a third-party legal right to obtain a license on such terms,[106] thus it permits SSOs to set and deliver standards as the industry needs, focusing on technical specification, while postponing licenses discussions at a later stage, when less uncertainty surrounds demand and costs of the standard. Nevertheless, the implicit vagueness of the FRAND commitment, as left by SSOs IPRs policies, leaves room for interpretation and creates the opportunity for disputes to rise. SEP-holders renege on their commitments in order to capture the hold-up value of their SEPs (i.e. bait-and-switch), while standard implementers avoid subscribing licensees claiming breach of FRAND commitments by the offers they receive.[107] These disputes may seem simple breach of contract issues, but they are doubly complicated: first by the enforceability of patent infringement through injunctions (next paragraph); and, secondly by the interference of competition law which, proscribes the misuse of market power and provides grounds to react to SEP-based injunctions by the so-called FRAND defense (Section 2).

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[105] In this sense the ND requirement differs from so-called 'most favored nation' clause by which a licensor must match its most favorable licensing terms to every licensees.

[106] B. VESTERDORF, "Antitrust Enforcement and Civil Rights: SEPs and FRAND Commitments", *CPI Antitrust Chronicle,* August 2014, n. 1.

[107] This variant of patent hold-out, typical of FRAND-encumbered SEPs is called reverse hold-up.

Paragraph D Injunctive Relief for Patent Infringement

The so-called 'smartphones global patent war',[108] *Huawei/ZTE* included, is actually based on the use of injunctions to enforce patents, whereby, in patent infringement proceedings, patentees seek to enjoin the rivals' unlicensed products from being sold on the market. Indeed, smartphone manufacturers have sought injunctions in courts around the world,[109] for the infringement of their patent portfolios, covering huge amounts of both SEPs and non-SEPs. Because mobile phones, as any ICT product, include hundreds of standards, which read on thousands of SEPs owned by dozens of patentees, the likeliness of an involuntary patent infringement is, at least, probable. Injunctions are judicial property remedies to IPRs infringement,[110] internationally available thanks to the 1995 Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), annexed to the institution of the World Trade Organization. Specifically, within the EEA, the Directive 2004/48[111] harmonizes the minimum measures, procedures and remedies for the enforcement of IPRs,[112] making available, both permanent and

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[108] For an overlook of the smartphone patent war see: C. DUHIGG & S. LOHR, "The Patent, Used as a Sword", *The New York Times*, October 7, 2012; or J.I.D. LEWIS & R.M. MOTT, "The sky is not falling: navigating the smartphone patent thicket", *WIPO Magazine*, February 2013, n. 1.

[109] Patent rights are, up to now, purely territorial rights; therefore inventors to obtain patent protection, must file patent application in every single national patent office they are interested. Simplified international procedures are provided by the 1970 Patent Cooperation Treaty (PCT) and 1973 European Patent Convention (EPC).

[110] Property remedies are opposed to liability remedies, such as damages or on-going royalties. Injunctions are also known as cease and desist orders.

[111] Directive 2004/48/EC of the European Parliament an of the Council of 29 April 2004 on the enforcement of intellectual property rights OJ L157/45, p. 16.

[112] Directive 2004/48/EC of the European Parliament an of the Council of 29 April 2004 on the enforcement of intellectual property rights OJ L157/45, Articles 3 provides that remedies should be proportionate and avoid creating barriers to legitimate trade. Notwithstanding the Enforcement Directive, Member States enjoy autonomy in regulating their judicial procedures, and this absence of complete uniformity, implicit in EU directives, raises issues of inconsistency and forum shopping, which are particularly important for disputes revolving around the legitimacy of an enforcement action, as it is often the case for SEPs. According to

preliminary injunctions: the former, pursuant Article 11, are based on the decision on the merits, and forbid the continuation of the infringement; the latter, pursuant Article 9, instead, are granted during the proceedings, if the patentee presents sufficient evidence regarding the existence and likely infringement of the patent (*fumus boni iuris*), and they prevent any imminent infringement or forbid the continuation of an alleged one. Moreover, pursuant to Article 9(4), if the plaintiff proves that any delay would cause him irreparable harm (*periculum in mora*) the preliminary injunction can be ordered *ex parte*, postponing the defendant's right of confrontation to later review. Article 12 of the Enforcement Directive introduces some flexibility into the granting of injunctions, allowing State Members to provide, in appropriate circumstances, for alternative pecuniary compensation.[113]

Since the remedies made available through an injunctive order comprise the recall, seizure, removal or destruction of the patent infringing products, injunctions, especially the preliminary ones, constitute means to hold-up the potential licensee, forcing the party to agree, usually through a settlement, to licensing terms otherwise unacceptable, involving exorbitant royalties, onerous cross-licensing terms[114], no-challenge[115] and termination clauses.[116]

Article 13(1) damages can be awarded if the infringer knowingly engaged in the infringement.

[113] Directive 2004/48/EC of the European Parliament an of the Council of 29 April 2004 on the enforcement of intellectual property rights OJ L157/45, Article 12 has its US equivalent in the 2006 *eBay* case, where the Supreme Court held that courts should follow equitable considerations before awarding a permanent injunction; specifically the prevailing plaintiff must demonstrate: 1 that is has suffered an irreparable injury; 2 that remedies available at law, such as monetary damages, are inadequate to compensate for that injury, 3 that, considering the balance of hardships between the plaintiff and defendant, a remedy of equity is warranted; and 4 that the public interest would not be disserved by a permanent injunction. See *eBay Inc. v MercExchange, L.L.C.,* [2006] 547 US Supreme Court 388.

[114] Once the standard is set, competition shifts on differentiating features of the devices, such as design, speed, security, other functionalities usually covered by non-SEPs. Cross-licenses of non essential patents for SEPs can be highly anticompetitive.

[115] Whereby the licensee waives its right to challenge the validity, infringement or essentiality of the licensed patents.

However SEPs are not normal patents, for they are normally subject to the FRAND license commitment, the purpose of which is the very prevention of hold-up. Considering the specialty of FRAND-encumbered SEPs, it has been argued that, as long as the company implementing them is willing and able to take a license on FRAND terms, an injunction may not be justified, even if the parties disagree on the specific level of FRAND. Advocates of such a ban on injunctions believe that the FRAND commitment limits the patentee's interest to fair compensation only; others oppose this argument considering that the contractual nature of the FRAND commitment, its literal tenor and underlying intent of the parties do not imply a waiver of injunctions.[117] Categorically permitting or denying the recourse to injunctions for FRAND-encumbered SEPs would tilt the balance of interests behind voluntary standardization respectively in favor of upstream licensors or downstream implementers, thus encouraging patent hold-up or hold-out.

Bearing in mind the context of voluntary standardization, we can now assess how the CJEU came at its *Huawei/ZTE* ruling, judging on the availability of injunctive relief for FRAND-encumbered SEPs.

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[116] Whereby the licensee agrees to the termination of the license in case he challenges the validity, infringement or essentiality of the licensed patents.

[117] Against injunctive relief see T. F. COTTER, "Comparative Law and Economics of Standard-Essential Patents and FRAND Royalties", *Texas Intellectual Property Law Journal,* 2014, vol. 22, p. 311. To the contrary see R.G. BROOKS AND D. GERADIN, "Interpreting and Enforcing the Voluntary FRAND Commitment", *International Journal of IT Standards and Standardization Research*, January 2011, vol. 9, n. 1, p. 1-23, IGI Publishing Hersey, PA, USA.

Section 2 The FRAND Defense up to *Huawei/ZTE* (FRAND *de iure condito*)

Chapter 1 Origins of the FRAND Defense

The so-called FRAND defense was born in the 2009 German Federal Supreme Court (i.e. Bundesgerichtshof, or BGH for short) Orange-Book Standard judgment, and it consists of a competition law claim made by the defendant against the seeking of injunctive relief by the plaintiff in a SEP infringement action. The alleged infringer argues that seeking court prohibitory orders constitutes an abuse of a dominant position by the SEP-holder pursuant to Article 102 TFEU, and corresponding national competition law. To render the recourse to injunctions anticompetitive by raising the FRAND defense, it must be established that Article 102 TFEU outweighs the plaintiff's rights to intellectual property and to effective judicial protection,[118] respectively recognized by Articles 17(2)[119] and 47 of the Charter of the fundamental rights of the EU (forth on the Charter).[120] Although SEPs infringement

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[118] The right to effective judicial protection comprises the right of access to a tribunal, and the right to a due process of law.

[119] Charter of the fundamental rights of the EU OJ C364/1, Article 17: *Right to property*

1. Everyone has the right to own, use, dispose of and bequeath his or her lawfully acquired possessions. No one may be deprived of his or her possessions, except in the public interest and in the cases and under the conditions provided for by law, subject to fair compensation being paid in good time for their loss. The use of property may be regulated by law in so far as is necessary for the general interest.

2. Intellectual property shall be protected.

[120] Charter of the fundamental rights of the EU OJ C364/1, Article 47 securing in EU law the same protection of Article 6(1) of the European Convention on Human Rights (ECHR), reads as follow:

Right to an effective remedy and to a fair trial cases, and the FRAND defense thereby attached, are relatively new, it is actually long lasting jurisprudence of both the CJEU and the General Court (hereinafter GC), that the exercise of IPRs, and of the right to access the court can, in exceptional circumstances, constitute an abuse of a dominant position proscribed by Article 102 TFEU,[121] respectively an abusive refusal to supply, and abusive litigation.

Paragraph A Competitive Limits to Unilateral Exercises of Exclusive Rights

Article 102 TFEU proscribes both exclusionary and exploitative abuses of a dominant position; it requires first that the undertaking concerned holds a dominant position in a relevant market, considering both its product and geographic dimensions, and then an anticompetitive

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Everyone whose rights and freedoms guaranteed by the law of the Union are violated has the right to an effective remedy before a tribunal in compliance with the conditions laid down in this Article.
Everyone is entitled to a fair and public hearing within a reasonable time by an independent and impartial tribunal previously established by law. Everyone shall have the possibility of being advised, defended and represented.
Legal aid shall be made available to those who lack sufficient resources in so far as such aid is necessary to ensure effective access to justice.

[121] Article 102 TFEU states as follow*: 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.

abuse of such dominant position.[122] Applying Article 102 TFEU to exercises of legal rights deserves an extremely careful approach, since the person who only exercises his rights does not harm anyone.[123] Nevertheless, by means of Article 102 TFEU, the EC has sanctioned cases of i) refusal to supply IP,[124] and ii) sham litigation, successfully upheld by the GC and CJEU.

i) Abusive Refusal to Supply Intellectual Property

For the CJEU an IPR does not necessarily confer a dominant position on its owner, which, as usual, must be established with respect to the relevant market, on a case-by-case basis. However, lack of substitutes for determined IPRs makes the relevant product market narrower, so the finding of dominance easier.[125] Even where it is found the IPR holder is dominant, the CJEU excludes that normally the exercise of IPRs, like refusals to license them, can be considered anticompetitive, since the very nature of any property is the exclusive right to preclude others from accessing it. When the CJEU first considered refusal to supply cases in light of competition law, it referred to the dichotomy between existence and exercise of the IPR; this excluded the abusive nature of the refusals, being lawful expressions of prerogatives conceded by the competent national IP laws.[126] Moreover, the CJEU judged that only in exceptional circumstances the exercise of

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[122] The inter States nature of the anticompetitive abuse is not necessary for the equivalent national competition law to apply.

[123] Charter of the fundamental rights of the EU OJ C364/1, Article 52(1) provides that necessary and public-interested limitations to the exercise of rights must be provided for by law, always respecting their essence and subject to the principle of proportionality. J. TEMPLE LANG, "Standard essential patents and court injunctions in the high tech sector under EU law after Huawei", *Academy of European Law*, December 3, 2015.

[124] The EC categorize refusals to license IPRs as refusals to supply. See Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings [2009] OJ C 45/7, para. 78.

[125] C. MARÉCHAL, "Concurrence et propriété intellectuelle*",* IRPI – LITEC (2009).

[126] In this sense Case C-53/87 *CICRA v Renault* EU:C:1988:472 and Case C-238/87 *Volvo v Veng* EU:C:1988:477. The dichotomy between existence and exercise of IPRs is also known as theory of the specific subject matter.

an IPR can be abusive pursuant to Article 102 TFEU. Starting from *Magill*,[127] a refusal to supply an IPR is abusive when three cumulative circumstances are met: 1) the refusal prevents the appearance of a new product not offered by the IPR owner, for which a potential market exists, and therefore consumers are harmed by this absence;[128] 2) it has no objective justification; 3) it excludes the development of a potential secondary market, reserved by the IPR-owner for itself without effective competition.

These exceptional circumstances imply a duty to contract under Article 102 TFEU whereby the IPR-owner loses its monopoly, having to grant access to its IPR. The CJEU reaffirmed these substantive conditions for the finding of an abusive refusal to supply in *IMS Health*,[129] while the GC in *Microsoft* compliance case.[130] More recently, the CJEU in its 2011

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[127] Joined cases C-241/91 P and C-242/91 P *RTE and IPT v Commission* (Magill) EU:C:1995:98. In this case, Magill, an Irish publishing company, was accused of infringing upon the copyright of three TV chains because it had offered weekly TV guides that included the programs of all three broadcasters. Before Magill's new product the only programming guides available were each individual broadcaster weekly TV guide, or the listing of all daily programs by newspapers, whose information was freely supplied by the TV chains. It's doubtful that the weekly TV listing programs by each broadcaster is an innovation, which deserves IP protection, especially considering that broadcasters spread the relevant information for free. See M. Motta, *Competition Policy*.

[128] Here lies the anticompetitive nature of the refusal since it contrasts with the very nature of IP law consisting of promoting innovation.

[129] Case C-418/01 *IMS Health* EU:C:2004:257. IMS collected data about German drugs sales; to do so it had divided the country into zones, thus creating a reference map that pharmaceutical companies had helped to draw and were using. When NDC Health, a new and sole competitor, tried to offer the same service, it had to organize sales data according to IMS map, because drugs firms were accustomed to it and refused alternative ways of organizing their sales data. IMS claimed copyright over the reference map. Although the case involves merely a me-too product, the CJEU considered that the map was not an innovation worthy of copyright protection. See M. MOTTA, *Competition Policy*.

[130] Case T-167/08 *Microsoft Corp. v Commission* [Microsoft III] EU:T:2012:323: in 2004 the EC found Microsoft abusing its dominant position in the market for PC operating systems, by refusing to supply competitors the critical information on the interoperability between group server operating systems. In appeal the Court of First

preliminary ruling *Scarlet Extended v. Sabam,*[131] denied the availability of an injunction for the enforcement of IPRs, recognizing that the fundamental right to IP, pursuant to Article 17(2) of the Charter, is not absolutely protected and inviolable but must be balanced against the protection of other fundamental rights such as the freedom to conduct business pursuant to Article 16 of the Charter.[132] Alike IPRs, also the right to access the court encounters competitive limits.

ii) Abusive Litigation

In two instances, specifically *ITT Promedia*[133] and *Protégé International*,[134] the General Court (GC) held that because the right of

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Instance (nowadays GC) upheld the Commission's prohibition decision, observing in particular that the list of exceptional circumstances resulting from Magill was not exhaustive; instead of the obstacle to the appearance of a new product, the refusal to supply was found to prevent a technical development of the already existing product {Case T-201/04 *Microsoft Corp. v Commission* [Microsoft II] EU:T:2007:289}. Lastly, in 2012 Microsoft was then found by the GC not to comply with the EC's ordered remedies. See C. MARÉCHAL, "Concurrence et propriété intellectuelle*",* IRPI – LITEC (2009). para. 258 to 261.

[131] Case C-70/10 *Scarlet Extended v. Sabam* EU:C:2011:771. Sabam, the Belgian copyright collecting society, in 2004 sought an injunction against the infringement of its copyrights by Scarlet, an Internet service provider (ISP), which allowed illegal downloads of music by peer-to-peer software. The dispute arrived to the Brussels Appeal Court that referred a preliminary ruling to the CJEU, asking whether UE law permitted Member States to authorize a national court to order an ISP to install all at its cost, as a preventive measure, a system for filtering electronic communications, to identify illegal downloads of files. The CJEU replied in the negative because such injunctions would be contrary to the freedom to conduct a business pursuant to Article 16 of the Charter.

[132] Charter of the fundamental rights of the EU OJ C364/1, Article 16 protecting the freedom to conduct a business, includes free economic or commercial activities, free contracting and free competition, and it states:
The freedom to conduct a business in accordance with Union law and national laws and practices is recognized.

[133] Case T-111/96 *ITT Promedia v Commission* EU:T:1998:183. Belgacom, the Belgian incumbent utility firm, refused ITT Promedia, a publishing company, the access to its customer database, which would have been used to publish a new commercial telephone directory. ITT sued Belgacom, and eventually they settled; disregarding the settlement, Belgacom initiated a new action in court, which brought

access to the courts is a fundamental principle of EU law pursuant to Article 47 of the Charter, dominant firms are generally free to start litigation against their rivals. Again, only in wholly exceptional circumstances clearly established by the GC, can they be held guilty of an abuse of dominance: i) the action by the dominant firm cannot reasonably be considered as an attempt to establish its rights, being an harassment that does not yield to a successful outcome; ii) the action was conceived within a plan whose goal was to eliminate competition.[135]
The GC emphasized that, pursuant to Article 47 of the Charter, the right to assert one's rights in court, and subject them to judicial control is fundamental, therefore, it is only in these exceptional and cumulative circumstances that the bringing of proceedings before a court may constitute an abuse of a dominant position.[136]

Departing from these two examined limits on the exercise of lawfully granted rights, the FRAND defense advocates a third type of exceptional circumstances, where the seeking of injunctions by a SEP holder against a standard-implementer becomes a dominance abuse. The

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ITT to complain before the EC alleging Belgacom was abusing its dominant position by pursuing vexatious litigation. The Commission found Belgacom in breach of Article 102 TFEU considering the wholly exceptional circumstances of the case. In appeal, the GC upheld the EC's finding of abusive litigation.

[134] Case T-119/09 *Protégé International v Commission* EU:T:2012:421. The GC confirmed the Commission's 2009 decision to reject an Article 102 TFEU complaint lodged by Protégé International, an Irish whiskey marketing company, against Pernod Ricard, a French liquors company, alleging that the latter had abused its dominance position by repeatedly opposing various trademark applications. Notwithstanding the rejection for lack of Community interest, the GC echoed the Commission's abusive litigation criteria, firstly laid down in ITT Promedia.

[135] See Annexes, Table 6 EU Leading Cases Limiting the Exercise of Exclusive Rights.

[136] Motorola, investigated by the EC for the anticompetitive enforcement of SEP-based injunctions, claimed that its conduct would have had to be assessed following the legal reasoning of abusive litigation. For the same argument, see N. PETIT, "Injunctions for FRAND-Pledged SEPs: The Quest for an Appropriate Test of Abuse under Article 102 TFEU", *European Competition Journal*, December 2013, vol. 9, n. 3, p. 677-719.

German Supreme Court gave the first ruling on this defense in the *Orange-Book Standard* case, then the defense was the central issue in the EC's *Samsung* and *Motorola* decisions, and, finally, six years after its establishment, it has been upheld by CJEU in *Huawei/ZTE*.

Paragraph B Orange-Book Standard Case

Germany has in place a bifurcated patent enforcement system,[137] in which specialized chambers of the Civil District Courts (i.e. Landgericht) deal with infringement issues, while the Federal Patent Court in Munich (i.e. Bundespatentgericht) hears validity ones at a different time.[138] Courts ruling on infringement are not competent to declare a patent invalid, but only review the *prima facie* validity to decide whether to stay the proceedings in case the patent in suit is blatantly invalid.[139] Because of this bifurcation, patentees have forum shopped German courts to seek preliminary injunctions.[140] In fact, the alleged infringer cannot hide behind contesting the validity of the patent, namely it cannot postpone the actual proceedings of patent infringement by claiming an action for nullification of the patent. SEP-holders have also chosen German venues to enjoin standard-implementers from bringing their products to the markets without a license of their SEPs. As the validity counterclaim was off the table, defendants have raised a competition law defense to limit the issuance of injunctions based on principles of good faith and antitrust law.[141] The German Supreme Court

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[137] See EUROPEAN PATENT ACADEMY, "Patent Litigation in Europe", European Patent Office, 3rd Edition, 2013, p. 25 to 27.

[138] H. GODDAR & C. HAARMANN, "Patent Litigation in Germany —An Introduction (I)", *China Intellectual Property,* 2013, n. 1-2, p. 68 to 72.

[139] As considered in Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, at para 369.

[140] A.S. ZOGRAFOS, "The SEP Holder's Guide to the Antitrust Galaxy: FRAND and Injunctions", *World Competition,* 2014, vol. 37, n. 1, at p. 58.

[141] P. CAMESASCA, G. LANGUS, D. NEVEN AND P. TREACY, "Injunctions for Standard-Essential Patents: Justice is not Blind", *Journal of Competition Law & Economics*, 2013, vol. 9, n. 2, p. 285-311.

has first endorsed such competition law defense in the Orange-Book Standard case.[142]

i) Facts of the Case

It was a patent infringement case brought by Philips against Master & More, involving a patent that was essential to the Orange-Book Standard;[143] Orange-Book was as a *de facto* standard based on joint innovation efforts of mainly Philips and Sony, which combined recordable (CD-R) and rewritable (CD-RW) compact disk technologies. After being set, the standard had been internationally accepted under the IPR declaration and licensing policies of the European Computer Manufacturers Association (ECMA) and internationally recognized by ISO and IEC.[144] The parties were not competitors on the product market, Master & More being a CD manufacturer, while Philips essentially being in the business of selling licenses at publicly known terms posted on-line. Master & More found these license terms to be commercially unacceptable, and sought to obtain better conditions,[145] but Philips refused. When Master & More continued to use the patented invention by adhering to the technical standard, Philips brought an infringement action seeking injunctive relief. In its defense, Master & More asserted that Philips had refused to license on FRAND terms, and therefore was abusing its dominant position. Philips, however, was not subject to any

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[142] H. ULLRICH, "Patents and standards – a comment on the German Federal Supreme Court decision Orange Book Standard", *International Review of Intellectual Property and Competition Law,* 2010, vol. 41, n. 3, p. 337 to 351.

[143] T. F. COTTER, "Comparative Law and Economics of Standard-Essential Patents and FRAND Royalties", *Texas Intellectual Property Law Journal,* 2014, vol. 22, p. 311, at p. 338 to 340. An English translation of the judgment is available at http://www.ipeg.com/blog/wp-content/uploads/EN-Translation-BGH-Orange-Book-Standard-eng.pdf

[144] Some scholars argue the nature of the Orange-Book Standard as a *de consenso* standard; in this sense see B. LUNDQVIST, "The interface between EU competition law and standard essential patents – from Orange-Book-Standard to the Huawei case", *European Competition Journal,* December 21, 2015, p. 15. To the contrary, courts and prevalent scholarship firmly considers this case as involving a *de facto* standard.

[145] Master & More wanted to pay a license fee of 3% of the net sale price of the discs.

sort of SSO-based FRAND obligation, since Orange-Book was a *de facto* standard. As a result, Master & More, mixing competition law and the duty of good faith, argued that the court should have refused to grant Philips its requested injunction under the legal principle of *dolo petit qui petit quod redditurus est*.[146]

ii) Judgment of the German Federal Supreme Court

The BGH did not retreat from its duty to hear a competition law defense in patent infringement proceedings; however it made the defense difficult, demonstrating its own reluctance to let competition law prevail on patent law. The Supreme Court agreed that the enforcement of the claim to an injunction could constitute an abuse of a dominant position and breach of good faith, precluding the SEP-holder from obtaining an injunction, and imposing it to license its SEPs, but for the asserted defense to succeed the alleged infringer must prove two conditions:

1) First it must prove that it made a binding, unconditional,[147] and ready for acceptance offer to conclude a license on acceptable customary contracting terms, which could not be rejected by the patentee without discriminating it against similar companies in the absence of objective reasons, or without unduly obstructing it. Namely, the offer could not be rejected without infringing antitrust law, which proscribes a market-dominant patentee from abusing its dominant position by refusing to conclude a contract offered to him on non-restrictive and non discriminatory terms (so-called godfather offer).

2) Secondly the alleged infringer must prove that it has behaved as if licensed, namely that it has complied, from the point of its offer, with the obligation deriving from the license agreement still to be concluded. To do so, if it already practices or has practiced the patent in suit, first it must render an account of such acts of use, then it must pay the royalties resulting from the future license into an escrow account or ensure their payment through a bank deposit. If the amount is not easily determined, it must secure an amount over its own estimate of a non-

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[146] The Latin maxim means *he petitions deceptively, who seeks what must be immediately returned.*

[147] An unconditional offer is an offer without limitation to the infringing products.

restrictive and non-discriminatory royalty and offering to accept a license that the licensor will set on equitable terms. If it subsequently believes that the licensor has set terms that are restrictive and discriminatory, it may petition the court for redress.[148]

On the facts of the case, Master & More failed to satisfy the necessary conditions for the defense to apply.

Paragraph C The FRAND Defense Resulting From Orange-Book Standard

Orange-Book involved a *de facto* standard without FRAND terms commitment, and it concerned a refusal to license non-competitors as underlined by the BGH, distinguishing between the market for the licenses and the one for standardized products. Licensing a single SEP is found a market itself, where its proprietor is the sole monopoly supplier; a defendant may successfully plead that the patentee is abusing its dominant position, proving the patentee refuses to conclude a license agreement on non discriminatory and non-restrictive terms, and proving that it behaved as if it was licensed.[149] Albeit strict, the BGH affirmed an entitlement to a compulsory license under competition law that prevents a patentee from enforcing its rights by way of injunction, even in the absence of a FRAND commitment. If a proposed licensee does all that is required, injunctive relief can be denied because the refusal by the patent holder to grant a license would be anticompetitive.[150] Risks of patent hold-out are absent because the licensee must define the boundaries of what constitutes not only the fair terms but even the godfather terms,

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[148] Based on the translation of the judgment used by the EC in its Motorola v Apple decision, see Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 4.5. See Annexes, Table 7 Orange-Book.

[149] In German competition law, the translation of 'as if', namely 'als ob', indicates the counterfactual hypothesis; see V. MELI, "Lo sfruttamento abusivo di posizione dominante mediante imposizione di prezzi non equi*", Quaderni di giurisprudenza commerciale,* n. 105, Giuffré Milano 1989.

[150] G. BARTH, "Patentees beware German antitrust rules*", Managing Intellectual Property,* July/August 2009, p. 2 to 4.

which qualify the refusal as an abuse of dominance. In reality, the patentee would be in a better position to present a license agreement, which reflects the current market terms.[151] In itself, Orange Book first i) imposes a heavy burden of proof on the defendant and second ii) strictly interprets the concept of refusal to supply an SEP:

i) Burden of Proof and Substantiating

Following the reasoning of the BGH, if the willing licensee, after having been abusively refused the license, does not infringe upon the SEP, either not adhering to the standard altogether or discontinuing its use, it could bring an antitrust action for damages against the plaintiff, for which, to be successful, it would need to show that the plaintiff's refusal is abusive under Article 102 TFEU. No other demonstration is required to prevail with a competition law defense over an action for patent infringement damages, since the burden of substantiation and proof for the justification of an abuse of dominance lies with the dominant enterprise. Nonetheless, in Orange Book, the willing licensee adopted the standard without a license of the relevant SEP, and then the unwilling SEP-licensor claimed an injunction; the infringement action imposes the burden of proof on the alleged infringer, which must then comply with the two burdensome requirements.

Under Orange-Book, there is a user of a *de facto* standard that implements the patented technology without a license, and therefore it infringes the SEP; this infringement blocks its own claim to protection under competition law, as if it were claiming with unclean hands. But had the SEP-holder not abusively refused to license, the user of the standard would not be an infringer. Denying the use of the *de facto* standard on grounds of patent infringement would amount to a straight denial of a competition law defense; thus the BGH allows the user to

[151] Indeed, the first FRAND licensing offer could be hard to be done by the willing licensee, since licensing contracts are often confidential and tailor-made on the factual conditions of the negotiating parties. Moreover, the market of a *de facto* standard does not present competitive prices, thus FRAND conditions must be estimated as if there was competition, i.e. by reference to comparable or hypothetical competitive markets. The problem is that ex post pricing of SEPs tends to be over-rewarding due to hold-up, but cannot be controlled by reference to a reliable benchmark.

demonstrate that it was and it behaves as a willing licensee, although imposing to fully comply with patent law, as if it were no victim of an anticompetitive refusal to license. The patentee refusing to grant a license only abuses its dominant position when it seeks injunctive relief, because it claims what he has to immediately return to a twice-willing licensee.[152]

ii) Threshold for the Refusal to be Abusive

Orange-Book narrows the concept of refusal to supply, requiring the willing licensee to submit an offer that the patentee cannot reject without acting abusively. In fact, there is no distinction between the refusal and its abusive nature; all that needs to be shown to make a refusal abusive pursuant to Article 102 TFEU is that the terms of the refusal are abusive. Instead of having to negatively demonstrate that the conditions of a license as requested by the dominant patentee are at any rate anticompetitive, the victim of the alleged abuse under Orange-Book must show the conditions, which the patentee has to accept in any event. This is a high threshold for the competition law defense to be considered; the abusive nature relates to the user's offer rather than to the possibly abusive character of the dominant patentee's refusal to license. The focus will be on what the patentee dominating the market does not have to accept, rather than on the terms by which it deters other enterprises from seeking a license in the first place.

Although by restrictive means, the BGH curbs the scope of protection of IPRs, by framing a compulsory licensing scheme. Where the Orange-Book requirements are fulfilled, competition law transforms the protection given by IP law from property rules to liability rules, excluding injunctive relief and granting the SEP-holder only damages and ongoing royalties remedies.

[152] In accordance with the Latin adagium *Dolo petit qui petit quod redditurus est.*

Paragraph D Developments and Assessment of the Orange-Book doctrine

The Orange-Book requirements have been applied to *de consenso* standards cases, showing the difficulty to meet their threshold, even if the SEP-holder has given a FRAND licensing terms commitment to a relevant SSO. [153] Lower German courts, afraid of the effects of competition law against the patentee's invention, have held that the defense is not satisfied if the would-be licensee reserves the right to contest infringement, or doesn't agree to a termination clause. This further requirement has insulated weak patents from review. Only in a few cases the potential licensee has actually met the requirements:[154] in May 2011, the Manheim District Court dismissed Philips' injunction claim finding that SonyEricsson, the defendant, had fulfilled Orange-Book Standard requirements by offering a license on a fixed rate and depositing the calculated royalties into escrow. In December 2011, Motorola obtained an injunction against Apple for the infringement of a SEP under the GPRS standard and enforced it until it was suspended; finally Apple was obliged to agree to a termination clause by the court mandated by the parties to determine the royalty to be paid.[155]

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[153] Early critics of the Orange-Book doctrine argued its conflict with the precedent 2004 BGH's Standard-Spundfass (or Tight Head Drum) decision where a *de consenso* standard was in suit: the major German chemical companies asked their suppliers of plastic barrels to propose a new product to be used as industry standard. The chemical companies choose one of the four proposals received, then the successful manufacturer granted free licenses of its patented barrel to the other three proponents, while licensing some other competitors. Subsequently the patentee demanded damages for the infringement by a non-licensed Italian competing manufacturer, which in turn argued that it was entitled to a license under antitrust law. Since the demand was unified by an industry agreement that shielded the patent from competition, the BGH recognized the patentee to be dominant in the market for the licenses of the barrel, and rejected the damage claim. See M. JAKOBS & F. HÜBENER, "SEP or no SEP? Open questions after Huawei/ZTE", E*uropean Competition Law Review,* 2016, vol. 37, n.1, at p. 38.

[154] LG District Court of Mannheim, Philips v SonyEricsson, 27/5/2011 Doc No 7 O65/10, and OLG Court of Appeal in Karlsruhe, Motorola v Apple, 27/2/12, Doc No 6 U 136/11.

[155] On this background the EC in 2014 found Motorola abusing its dominant position.

As we know, standardization produces both lock-in effects and network externalities, which in turn enhance the value of SEPs and raises risks of patent hold-up. The interests of SEP-holders and standard-implementers are not inherently in conflict, but can clash when market power is abused either by blocking or imposing anticompetitive license terms or by systematically infringing the SEPs avoiding to take licenses. A refusal to license SEPs is harsh given the hold-up situation, and considered that it was the patentee himself who chose to exploit his proprietary technology as an industry standard. Requiring the standard-implementer to fully comply with fictitious, non-abusive license terms begs the question of whether it is due to its conduct, or rather to that of the dominant patentee that a license contract has not been made. Orange-Book defers the competition law defense to compliance with IP law, and in so doing, weighs in favor of the SEP-holder against possible hold-out by standard-implementers.

In case of SEP-infringement, the patentee needs the necessary information of the identity of the infringer, the scope of the infringement, and its ability and readiness to pay. The SEP-holder can easily detect uses and users of its SEPs by looking at the market for the standardized goods, while for the standard implementer it is harder to discern exactly what SEPs are used and to who they belong, especially when the standard reads on thousands of SEPs. Under Orange-Book requirements the dominant patentee can always refuse to supply its SEPs and wait for the user to submit an offer at such favorable conditions, as it cannot reject without acting abusively. The judgment does not ease judicial peace between the parties, and it does not notice that it was the patentee who introduced the patent into the standard with a view to enhance the invention's dissemination, failing to see that such a broader diffusion derives by the merits not only of the inventor, but also of the other SEP-holders, and by the users' reception. The Orange-book competition law defense blocking dominant patentees' claims to injunctive relief suggests only limited external constraint on the absolute character of the patent exclusivity.[156] Perceiving anticompetitive risks the EC stepped in the SEPs field, and rendered its view.

[156] Far from the US *eBay* case law, which holds that the claim to an injunction is not inherent in the nature of patents as exclusive rights of property, but a matter of its statutory design.

Chapter 2 The FRAND Defense Following the European Commission

The EC is well placed to intervene in cases where the distortions arising from the adoption of standards imply an objective risk of harm to European consumers. Pursuant to Article 102 TFEU the European antitrust enforcement authority has repeatedly investigated SEP hold-up, but only with the 2014 *Samsung* and *Motorola* decisions it has been able to definitively set a precedent, bringing its guidance to standards-intense industries.

Paragraph A European Commission's Approach to SEPs Before *Samsung* and *Motorola*

Before 2014 of the three SEPs cases previously opened, only one arrived at a decision, although a commitment one, not much helpful for stare decisis purposes. As previously stated, the IPCom case related to a change in the ownership of FRAND-encumbered SEPs, hence the new SEP-holder, not having given any FRAND licensing terms commitment, tried to obtain supra-FRAND licenses. The case was then closed without sending the statement of objections when IPCom publicly announced its readiness to concede FRAND licenses.[157] Secondly, the investigation of Rambus' patent ambush was ended by an Article 9 Regulation 1/2003 commitment decision providing for a five-year cap on the royalty rate Rambus could seek. Thirdly, the EC for four years investigated the claims of a number of mobile phone producers (including Nokia, SonyEricsson, NEC, Panasonic and others) accusing Qualcomm, a US research company, of charging excessive, supra-FRAND royalty rates for its SEPs relating to the W-CDMA telecommunication standard. The case was closed when the complaints were withdrawn.[158]

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[157] *IPCom case*, Commission Press Release MEMO/09/549, December 10, 2009.

[158] Case COMP/39247 *Qualcomm* Commission Press Release November 24, 2009 MEMO/09/516. See M. Mariniello, "Fair, Reasonable and Non-Discriminatory (FRAND) Terms: A Challenge for Competition Authorities", *Journal of Competition Law & Economics*, 2011, vol. 7, n. 3, p. 523-541. W-CDMA is the technology of the

Not having set any precedent, the EC exploited indirect ways to address concerns about the possible anti-competitive use of SEPs, namely i) the 2011 Horizontal Guidelines, and ii) Google's 2012 acquisition of Motorola.

i) Guidelines on the Applicability of Article 101 TFEU to Horizontal Co-operation Agreements

The entire seventh section of the Horizontal Guidelines is dedicated to standardization agreements, and it particularly treats patent hold-up risks. In line with the CJEU case law on abusive refusal to supply, the EC recognizes at paragraph 269 that ownership of a SEP does not necessarily imply dominance. Furthermore, at paragraph 287, the EC individuates the purpose of FRAND commitments

…[Which] *are designed to ensure that essential IPR protected technology incorporated in a standard is accessible to the users of that standard on fair, reasonable and non-discriminatory terms and conditions. In particular, FRAND commitments can prevent IPR holders from making the implementation of a standard difficult by refusing to license or by requesting unfair or unreasonable fees (in other words excessive fees) after the industry has been locked-in to the standard or by charging discriminatory royalty fees.*

Regarding the content of FRAND terms, the Guidelines pioneeringly indicate that the fairness and reasonableness of licensing terms depend on the economic value of the SEP, factually assessed *inter alia* comparing the licensing fees charged by the patentee for the relevant patents in a competitive market, before the industry has been locked-in to the standard, with those charged after the adoption of the standard, or comparing royalty rates for the same patents in comparable standards, or

air interface of the UMTS standard, i.e. a radio technology connecting handsets and base stations throughout the mobile network.

obtaining an independent expert assessment of the importance and essentiality of the SEPs to the relevant standard.[159]

ii) Google/Motorola Merger Clearance

Patent hold-up was also central in the decision to clear Google's acquisition of Motorola Mobility; here the EC for the first time displayed its approach on the Orange-Book standard case.[160] Relying on direct documentary evidence the EC analyzed the risk of SEP hold-up by the merged entity, especially with regards to yet-to-be licensed firms (i.e. Apple and Microsoft).[161] It was considered that *each SEP constitutes a separate relevant technology market on its own,*[162] and that *a FRAND commitment is not a guarantee that a SEP holder will not abuse its market power* because FRAND does not put injunctions off the table.[163] Nonetheless, four elements brought the EC to exclude risks of patent anticompetitive behavior and to finally clear the acquisition:[164]

1) Google's internal documents showed the defensive purposes of the transaction, namely to use the acquired patent portfolio to protect the firm's own products rather than impede competition.

2) Any SEPs strategic behavior, like seeking injunctions, would have been subject to the EC's enforcement policy under Articles 101 and 102 TFEU with respect to FRAND commitments.

3) Google publicly sent irrevocable and legally binding letters to the SSOs relevant for Motorola's SEPs, committing to engage in FRAND good faith licensing negotiation, and explaining exactly the

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[159] Guidelines on the applicability of Article 101 TFEU to horizontal co-operation agreements [2011] OJ C 11/1, para. 289-290.

[160] Case COMP/M.6381 *Google/Motorola Mobility* Commission Merger Clearance Decision of February 13, 2012 OJ C75 of 14 March 2012, para. 158.

[161] Case COMP/M.6381 *Google/Motorola Mobility* Commission Merger Clearance Decision of February 13, 2012 OJ C75 of 14 March 2012, para. 118.

[162] Case COMP/M.6381 *Google/Motorola Mobility* Commission Merger Clearance Decision of February 13, 2012 OJ C75 of 14 March 2012, para. 54 to 61.

[163] Case COMP/M.6381 *Google/Motorola Mobility* Commission Merger Clearance Decision of February 13, 2012 OJ C75 of 14 March 2012, para. 113.

[164] Case COMP/M.6381 *Google/Motorola Mobility* Commission Merger Clearance Decision of February 13, 2012 OJ C75 of 14 March 2012, para. 8 to 10.

scope of what Google considers its obligations to be with respect of licensing SEPs.

4) Finally, the risk of retaliation by patent infringement counter-suits significantly discouraged Google from engaging in patent hold-up.[165]

In its letters, which were largely in line with Orange-Book Standard requirements, Google explicitly declared that it will not seek injunctions against willing licensees, even in case of disagreement on the FRAND licensing terms. According to the letters a licensee is willing if it makes a binding and unconditional offer to license the relevant SEPs, within thirty days from Google's final offer, also providing for judicial determination of the FRAND terms. Moreover, the licensee must guarantee the royalty payments during the court adjudication and agree to reciprocate its SEPs reading on the same standard as Google's SEPs.[166] The EC recognized that Google's public declaration to the SSOs protects standard-implementers, ensuring they can contest in court the FRAND nature of the licensor's offer. However, the most important caveat of these letters was their explicit submission to applicable laws, including competition law, which, as the EC explicitly stated at paragraph 145, may further limit the possibility of a SEP-holder to seek and enforce injunctions. Thus, notwithstanding that Google's letter were enough for the Commission to clear the merger, strategic uses of SEPs will be in any case scrutinized in light of the proscriptions on the use of market power, and in certain circumstances prohibited constituting an abuse of a dominant position pursuant to Article 102 TFEU. As predicted, the EC has so done against Samsung and Motorola, endorsing a competition law defense against injunctions for FRAND-encumbered SEPs. The Commission departed from Orange-Book inasmuch the burden of proof pends on the plaintiff, implicitly indicating that the German doctrine was too SEP-holder friendly. We will analyze the two cases following the order of opening of the investigations, namely

[165] Case COMP/M.6381 *Google/Motorola Mobility* Commission Merger Clearance Decision of February 13, 2012 OJ C75 of 14 March 2012 para. 128.

[166] Case COMP/M.6381 *Google/Motorola Mobility* Commission Merger Clearance Decision of February 13, 2012 OJ C75 of 14 March 2012, para. 141 to 143

Samsung before *Motorola*, although their decisions have been meaningfully issued in sync on April 29, 2014.[167]

Paragraph B Samsung v Apple

The case has been decided through an Article 9(1) Regulation 1/2003 commitments decision, which does not conclude whether or not there has been an infringement,[168] therefore the findings are only preliminary. We will first see i) the facts and the EC's analysis of the case, and then ii) the content of the legally binding commitments.[169]

i) Facts, Relevant Markets and Dominance

From July 2010 Apple and Samsung, two multinational vertically integrated ICT firms, with upstream R&D and licensing operations, and downstream product selling activities, had initiated their patent war, the former asserting non-SEPs in the US, while the latter seeking preliminary and permanent injunctions for its UMTS SEPs before several courts in Europe. On January 30th 2012, the EC opened *moto propriu* an investigation over Samsung's alleged abuse of a dominant position, in connection with the infringement of FRAND commitments for patents declared essential to ETSI to implement UMTS technologies, the standard for third generation (3G) mobile telecommunication in the EEA. The EC Decision 128/1999 mandated the introduction of the UMTS standard in the Member States.[170] After a yearlong investigation,

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[167] One could see a pattern in the timing of the EC's closures of its investigations; regarding SEPs cases, in 2009 Rambus, IPCom and Qualcomm and in 2014 Samsung and Motorola were closed immediately before the succession of the Competition Commissioners, as if the table should be cleaned for the new entrant.

[168] Commitments benefit both the EC ensuring shorter and cheaper investigations, and the investigated undertakings because without the establishment of an infringement, follow-on damage actions are not facilitated. See D. RAT, "Commitment Decisions and Private Enforcement of EU Competition Law: Friend or Foe?*", World Competition*, 2015, vol. 38, n. 4, p. 527-546

[169] Case AT.39939 *Samsung Enforcement of UMTS standard essential patents,* Commission Commitment Decision of April 29, 2014.

[170] Case AT.39939 *Samsung Enforcement of UMTS standard essential patents,* Commission Commitment Decision of April 29, 2014, para. 35-36.

on December 21st, 2012, the EC sent the Statement of Objection (SO) to Samsung, expressing its preliminary finding of anticompetitive conduct under Article 102 TFEU, despite Samsung's previous unilateral withdrawal of the injunction requests from all European courts. In the SO the EC found that, in the exceptional circumstances of the case, namely the voluntary standardization process and Samsung's FRAND licensing commitment, and also absent of any objective justification being Apple willing to take a FRAND license for the relevant SEPs, the seeking of the injunctions was incompatible with Article 102 TFEU.[171]

The relevant product market was the one for licensing the UMTS technologies, on which each SEP reads. Neither mobile standards of other generations, like the older GSM and the newer LTE, nor are substitutes of the UMTS technologies other 3G standards used outside the EEA.[172] Considering also that access to each relevant SEP is needed in order to implement the UMTS standard, the EC concluded that there was no supply-side substitutability for Samsung's SEPs. The geographic market was at least EEA-wide, considered the vast diffusion of the UMTS standard.[173]

Although a SEP does not imply a dominant position, Samsung was found dominant in the EEA market for the licenses of its SEPs. Obviously it was the sole supplier of such licenses, but substitute technology lacked too. The telecommunication industry, mandated by the EC Decision and encouraged by the SEPs-holders' FRAND terms commitments, had been locked into the wide implementation of the UMTS standard. Last but not least, Samsung's dominant position was not effectively constrained by countervailing licensees' power.[174]

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[171] Case AT.39939 *Samsung Enforcement of UMTS standard essential patents,* Commission Commitment Decision of April 29, 2014, para. 1 to 6.

[172] Standards from different generations need to be fully backward compatible; therefore, especially at the time of the first release of a new standard, the previous technologies are likely to be complementary rather than substitutes.

[173] Case AT.39939 *Samsung Enforcement of UMTS standard essential patents,* Commission Commitment Decision of April 29, 2014, para. 41 to 44.

[174] Case AT.39939 *Samsung Enforcement of UMTS standard essential patents,* Commission Commitment Decision of April 29, 2014, para. 45 to 51.

The EC did not question the availability of injunctive relief as lawful exercise of IPRs, and it stated that it *cannot… in itself constitute an abuse of a dominant position.* Only in exceptional circumstances and without an objective justification, the exercise of an exclusive right can become abusive. The case law listing the exceptional circumstances is not exhaustive[175] and in the present case the EC has found them in in the UMTS standard-setting process, and in the FRAND commitment given to ETSI in December 1998 by Samsung for its SEPs.[176] The Commission considered that the commitment to license SEPs on FRAND terms is the *quid pro quo* for the patents acquiring essential status with respect to the standard; the holder of FRAND-encumbered SEPs expects to obtain revenue streams from its licenses, and not to exclude others from accessing them. Injunctions could have the exclusionary effects of excluding Apple's product from the market or otherwise imposing exploitative and discriminatory licensing terms. Even if the grant of injunctions ultimately depends on courts, Samsung, being a dominant undertaking, had to respond to the special responsibility stemming from Article 102 TFEU.[177] Samsung's abusive conduct lacked any objective justification since Apple was willing and able to enter on FRAND licenses. [178] On September 2013 Samsung agreed to change its enforcement practices and presented commitments for the EC approval.

[175] In this sense the EC recalled the CJEU's jurisprudence on abusive refusal to supply.
[176] Case AT.39939 *Samsung Enforcement of UMTS standard essential patents,* Commission Commitment Decision of April 29, 2014, para. 55-56.
[177] Case AT.39939 *Samsung Enforcement of UMTS standard essential patents,* Commission Commitment Decision of April 29, 2014, para. 59 to 63. For the first use of special responsibility, see Case C-322/81 *Michelin v Commission* EU:C:1983:313.
[178] The EC recognized as a possible objective justification to injunctive relief, the protection of the SEP-holder's commercial interests considered as the right to receive FRAND compensation for the use of its SEP; such objective justification would occur in case the alleged infringer is insolvent, or its assets are in an unreachable jurisdiction, or if it is an unwilling licensee. Case AT.39939 *Samsung Enforcement of UMTS standard essential patents,* Commission Commitment Decision of April 29, 2014, para. 65 to 70.

ii) Article 9(1) Regulation 1/2003 Commitment Decision

Samsung first proposed to commit not to seek injunctions for five years in the EEA for infringement of its present and future mobile telecommunication SEPs (so-called Mobile SEPs) against a potential licensee that, within thirty days of the invitation to negotiate, agreed to a certain Licensing Framework for the determination of FRAND terms and conditions. The Licensing Framework encompassed both unilateral and reciprocal cross-licenses. The negotiation period can take up to twelve months, and if disagreement persists on what FRAND terms are, there will be a third party determination, either by a court, or if the parties disagree on the venue, by arbitration. Samsung could seek an injunction when it has agreed to be bound by the Licensing Framework but the potential licensee does not and seeks injunctions on the basis of its SEPs. A trustee would monitor compliance with the commitments.[179] Pursuant to Article 27(4) of Regulation 1/2003, the Commission in October 2013 published Samsung's proposal in order to market test it, namely to receive observations from interested third parties.[180] On February 2014 Samsung submitted the final commitments, whereby: the default venue for third party determination of FRAND terms will be court adjudication instead of arbitration; this change is important because court judgments are public and have stare decisis effects; even when the parties agree to confidential FRAND determination by arbitration, its outcome will be made public. Furthermore, it is specified that the independent adjudicator must consider issues of patent infringement, validity and essentiality. In its invitation to negotiate Samsung must provide sufficient details of its proposed licensing terms, specifying the SEPs for which it offers a license (so-called proud-list) and the standard to which they relate; in this way the potential licensee can take an informed decision to sign the invitation to negotiate, within sixty days instead of thirty. Samsung will remain subject to all contractual obligations entered during the terms of

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[179] Case AT.39939 *Samsung Enforcement of UMTS standard essential patents,* Commission Commitment Decision of April 29, 2014, para. 75 to 81.

[180] Case AT.39939 *Samsung Enforcement of UMTS standard essential patents,* Commission Commitment Decision of April 29, 2014, para. 82 to 97.

the commitments even after they have expired. Cross licenses can only be requested where SSOs reciprocity rules cover each other's SEPs.[181]

The EC has accepted the final commitments and made them binding; accordingly, any mobile standard implementer that signs the Licensing Framework is shielded from Samsung's mobile SEPs injunctions; nonetheless, injunctive relief remains available against potential licensees not agreeing to be bound by the Licensing Framework, or otherwise attacking Samsung by way of injunctions; in these cases the court called upon granting injunctive relief, evaluating all the relevant circumstances, will decide on the licensee's willingness to enter into FRAND licenses with Samsung.[182] Simultaneously, the EC carried on a parallel investigation on the alleged anticompetitive use of SEPs-based injunctions by Motorola, always against Apple.

Paragraph C Motorola v Apple

The day after Google's acquisition of Motorola was cleared, Apple complained before the EC about the enforcement of Motorola's FRAND-encumbered SEP, relating to ETSI's GPRS telecommunications standard. The Commission found that Motorola, by seeking and enforcing injunctions in Germany against Apple's flagship products, on the basis of its GPRS FRAND encumbered SEPs, abused its dominant position, considering the exceptional circumstances of the case, namely the standard-setting process and Motorola's FRAND commitment, and being absent of any objective justification given Apple's willingness to conclude a FRAND license. Unlike *Samsung*, a ninety-nine page prohibition decision was adopted, albeit not imposing any fine.[183]

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[181] Case AT.39939 *Samsung Enforcement of UMTS standard essential patents,* Commission Commitment Decision of April 29, 2014, para. 97 to 103.

[182] Case AT.39939 *Samsung Enforcement of UMTS standard essential patents,* Commission Commitment Decision of April 29, 2014, para. 121 to 125. See Annexes, Table 8 Samsung v Apple.

[183] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014. The EC discretionary decided not to impose a fine in light of the diverging conclusions of national courts on the legality

i) Facts of the Case

Two months after Apple submitted its complaint, the EC initiated formal proceedings against Motorola to assess whether the company breached Article 102 TFEU and its FRAND commitment over the use of SEPs, by seeking and enforcing injunctions in courts of several Member States against Apple's flagship products. Both firms are vertically integrated companies based in the US, and Motorola by the time of the investigation was fully owned by Google. The relevant standard is ETSI's GPRS namely the second-generation telecommunication technology (2G),[184] while the relevant SEP (so-called Cudak SEP) is a European patent, declared essential by Motorola and encumbered by the FRAND commitment in April 2003, as requested by ETSI IPRs Policy rule 6.1.[185] Motorola had licensing agreements, also covering the Cudak SEP, since 2006 with Chi Mei Communication System, and since 1990 with Qualcomm, two chipset manufacturers. When Apple entered into components supply contracts with Chi Mei in 2007, and Qualcomm in 2009, Motorola terminated their licensing agreements, and then sought to conclude licenses directly with Apple. Negotiations between the two US firms started right after the termination of the Chi Mei agreement.[186] In October 2010, Apple and Motorola had initiated patent litigation in the US, and from April 2011, Motorola sought an injunction against Apple in the Mannheim District Court alleging that Apple was infringing, *inter alia*, the Cudak SEP; Apple counter-sued Motorola just for non-SEPs infringements.[187] During the German injunction proceedings initiated by

under Article 102 TFEU of SEP-based injunctions, and considering the absence of European Union Courts case law on the issue.

[184] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 85 to 90.

[185] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 91 to 98.

[186] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 102 to 109.

[187] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 110 to 119.

Motorola, Apple made six licensing offers with a view to exploit the Orange-Book defense.[188]

The first offer on July 20, 2011, was refused because it was limited only to the litigated SEPs instead of covering all Motorola's patent portfolio relevant to Apple's devices; moreover, it proposed royalties below Motorola's expectations, it limited judicial review to the royalty proposed by Apple, and lastly, it did not provide for SEPs' reciprocity.

The second offer provided for royalty determination according to Motorola's equitable discretion and to FRAND principles, plus full judicial review in case of dispute.

The third offer added a clause whereby, even in the case of partial or full invalidation of a licensed patent, Apple would still be obliged to pay the agreed royalties. On December 2011, the Mannheim District Court judged Apple's third offer to be insufficient to meet the Orange-Book requirements, in particular because Apple did not accept unconditional liability for past damages beyond FRAND royalties, and reserved the right to challenge the validity of the SEPs, to the extent they would be used to claim beyond FRAND damages for past infringements. The German court granted an injunction against Apple for the infringement of Cudak SEP.

The fourth offer recognized unlimited liability for damages due to past infringement of Motorola's SEPs.

The fifth offer was refused because it did not cover Apple's last product (i.e. the iPhone 4S), and it did not include a termination clause. In Motorola's view, Orange-Book requirements were not satisfied if the offer was conditioned on the infringement of the patents in suit.

Apple's motion to stay the enforcement of the injunction was rejected, and in January 2012 Motorola informed Apple that it had deposited the amounts required for the enforceability of the injunction; the same day Apple made its last offer, including in the scope of the license the iPhone 4S and agreeing to a termination clause, then filed a second application to stay the enforcement of the injunction. Motorola

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[188] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 120 to 122.

rejected the last offer because it still did not exclude the argument of likely non-infringement of the licensed SEPs by the iPhone 4S, launched after Motorola first injunction request.[189]

Finally, in May 2012 the parties settled, agreeing to a license based on the terms of Apple's last offer. The settlement agreement covered all of Motorola's mobile SEPs, it included the iPhone 4S, royalties for future and past use of the SEPs were to be set by Motorola according to its equitable discretion and to the FRAND standard in the industry, plus subject to judicial review. Further, Apple recognized Motorola's claims for damages, and withdrew all pending patent nullity complaints. Since the settlement agreement Apple paid royalties into escrow.[190] Motorola asked for a royalty of 2.25% of net sales revenue[191] and Apple contested it, so the FRAND royalty determination was submitted to the Mannheim District Court.

In May 2013, the EC sent Motorola a SO, in reference to its Apple litigation setting out its belief that it had abused its dominant position by seeking and enforcing an injunction against Apple in Germany, based on its Cudak SEP. The Mannheim District Court in November 2013 stayed the rate-setting proceedings and asked the EC's opinion on the determination of FRAND royalties.[192]

ii) Abuse of a Dominant Position by Motorola

The relevant product market was the one for the licensing of the GPRS technology on which the Cudak SEP reads; there was no demand-side substitutability since the GPRS standard cannot be substituted neither by other generations of mobile standards, which need to be

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[189] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 123 to 145.

[190] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 162 to 166.

[191] Motorola argued that such rate was its ordinary practice. Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 100-101.

[192] Pursuant to Article 15 of Regulation 1/2003. Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 167 to 176.

backward compatible with GPRS, nor by other 2G standards not adopted in the EEA. Indeed the Cudak SEP is indispensable to implement the GPRS standard, it cannot be designed around, that is to lawfully practice the GPRS standard, the implementer must obtain a license for all the standard essential patents, Cudak included. Supply-side substitutability was absent too, since no other technology can fulfill Cudak SEP's function within GPRS.[193] The geographic market was EEA-wide, since the regulatory regime therein is harmonized, and the Cudak SEP is a European patent enforceable in six Member States.[194]

Recalling the Horizontal Guidelines, the EC noted that ownership of the Cudak SEP did not automatically imply dominance;[195] however being the Cudak SEP indispensable to implement the GPRS Standard, and being the industry locked-in to that standard, Motorola was found holding a dominant position in the market for the licenses of its Cudak SEP.[196] Motorola argued that its market power was constrained in light of, *inter alia*, Apple's countervailing bargaining power; even granted such general negotiating leverage, it differs from proper buyer power which no standard-implementer can enjoy, being impossible to switch to competing suppliers because of the essentiality of the Cudak patent.[197]

The EC, in line with CJEU case law, recognized that the request and enforcement of injunctions is generally not an abuse of a dominant position in itself, as a legitimate exercise of one's IPRs. Nevertheless, in specific circumstances a dominant undertaking may be deprived of the right to act in a certain way, *per se* lawful and unquestionable if pursued by non-dominant firms; indeed, as stated in *Magill*, the exercise of an exclusive right, in exceptional circumstances and absent any objective

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[193] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 181 to 213.

[194] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 214 to 220.

[195] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 223.

[196] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 221 to 236.

[197] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, section 7.5.

justification, can constitute an abuse of a dominant position. Moreover, as *IMS Health* and *Microsoft* showed, the list of exceptional circumstances is not exhaustive.[198] From Motorola's dominance on the EEA market of the licenses of its Cudak SEP, derived its special responsibility not to impair competition on the merits. Motorola, in the special circumstances of the case, namely the GPRS standard-setting context and the FRAND commitment to license the Cudak SEP, abused its dominant position by seeking and enforcing an injunction in Germany against Apple, without any objective justification since Apple was, by its second offer, a willing licensee.[199]

The injunction had the exclusionary effects of temporarily banning the online sale of Apple's products, thus reducing consumers' choice, and it forced Apple to accept an anti-competitive settlement agreement, whose termination clause shielded invalid or inessential patents from being invalidated, hence negatively influencing the FRAND rate.[200] The EC made clear that injunctions are legitimate remedies to the infringement of IPRs; however the voluntary standardization environment and the FRAND engagement are exceptional circumstances making the injunctions against willing licensees contrary to Article 102

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[198] Motorola held that the applicable legal test under Article 102 TFEU for the seeking of injunctions based on FRAND-encumbered SEPs, was the one on abusive litigation deriving from ITT Promedia and Protégé International. The EC rejected this argument relying on the non-exhaustiveness of the exceptional circumstances as set in IMS Health and on the absence of FRAND commitments in the previous cases.
Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 271-272 and 527 to 534.

[199] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 279 to 307.

[200] A termination clause *de facto* equates to an obligation not to challenge the validity of the licensed IPRs; to this extent it harms the public interest hindering effective competition on the merits, since royalties may be paid for invalid IP, increasing production costs possibly passed on to end-consumers. In this sense see Commission Regulation (EU) No 316/2014 of 21 March 2014 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to categories of technology transfer agreements (TTBER) OJ L93/17, para. 112. Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 308 to 349.

TFEU. The FRAND commitment means the SEP-holder choses to monetize its patent through fair, reasonable and non-discriminatory licensing, without excluding standard-implementers, who in turn rely on it, and reasonably expect to contract FRAND licenses. The threat or actual enforcement of FRAND-encumbered SEP-based injunctions undermines confidence in the voluntary standardization process, with the risk of depriving consumers of its benefits.

Apple's second offer allowed Motorola to set FRAND royalties, and in case of dispute, provided for full rate-setting judicial review; in so doing Apple excluded any risk of patent hold-out because Motorola's FRAND consideration was guaranteed,[201] rendering the resort to an injunction unnecessary. The EC recognized that injunctions would be justified to secure the compensation of FRAND-encumbered SEPs, for example, if the potential licensee is in financial distress, its assets are located in an unreachable jurisdiction, or it is unwilling. But these were not Apple's conditions.[202] According to the EC, Apple's refusal to agree to the termination clause and to SEPs reciprocal grant-backs did not constitute unwillingness to enter FRAND licenses. Motorola did not provide any objective justification to its conduct, whose abusive anti-competitiveness is unrelated to the compliance or not with other legal rules, such as the applicable Orange-Book case law or ETSI IPRs Policy.[203]

Overall, the EC decided that in the exceptional circumstances of the case, and without objective justifications, Motorola abused its dominant position, affecting the trade between Member States, by claiming and enforcing a Cudak SEP-based injunction against Apple, which was a willing licensee since its second offer.[204] The prohibition decision imposed to Motorola to withdraw its Cudak SEP-based

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[201] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 415 to 420.

[202] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 427.

[203] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 421 to 425.

[204] See P. NIHOUL, "Injunctions on Standard Essential Patents: in Search of a 'Clear Bright Line'", *Journal of European Competition Law & Practice*, January 29, 2015.

injunctions in Germany against Apple, and eliminate anticompetitive clauses from the settlement agreement, including the termination one.[205] This decision, according to the Commission, achieved a fair equilibrium of the fundamental rights to IP, access to a tribunal, and freedom to conduct a business.[206]

Paragraph D European Commission's Approach to SEPs After *Samsung* and *Motorola* Decisions

Finally, the EC has showed its position regarding the use of injunctions by SEP-holders, clarifying in what circumstances such conduct breaches Article 102 TFEU. The then-Commissioner for Competition Joaquín Almunia presented the decisions as

…[*striking] the right balance between the interests of patent holders, who should be fairly remunerated for the use of their IP, and those of the implementers of standards, who should get access to the standardized technology without being held up through abuses of market power*.[207]

Taken together the two SEPs decisions provide to European industry stakeholders i) legal certainty, but they are not free from ii) critics.

i) Legal Certainty

First of all, the European competition enforcement authority recognized that injunction are generally legitimate remedies for patent infringement; however, the EC clearly indicated that the circumstances change if injunctions are sought and enforced in the standard setting context on the basis of FRAND encumbered SEPs against willing licensees; in fact, the threat of injunctions can distort licensing

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[205] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 557-558.

[206] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 500 to 526. See Annexes, Table 9 Motorola v Apple.

[207] Then Vice-President of the European Commission responsible for Competition policy, Joaquín Almunia, Press conference, Brussels, 29 April 2014, Speech/14/345.

negotiation up to anticompetitive terms, while their enforcement could exclude standard-compliant products from the market.

When assessing the abusive nature of the act, by a dominant SEP-holder, of seeking injunctive relief, the EC discarded the legal test of abusive litigation pursuant to *ITT Promedia* and *Protégé International*; instead it referred to the doctrine of abusive refusal to supply, to find new exceptional circumstances in the FRAND commitment given by the SEP-holder to the relevant SSO,[208] and in the willingness of the licensee to enter FRAND licenses.

Like Orange-Book, only a willing licensee can successfully raise the FRAND defense against the seeking and enforcing of SEP-based injunctions, yet the definition of willingness differs from German case law, the EC seeming to be more licensee-friendly. In both approaches willingness to enter FRAND licenses depends on the circumstances of the specific case, and clearly is not enough to declare oneself willing, as this must be shown by concrete subsequent actions; however, while the burden of proof for the Orange-Book requirements falls on the alleged infringer, who must show its willingness, the EC in *Samsung,* required the SEP-holder to do the first offer of entering the FRAND Licensing Framework. The willing licensee does not need to make a FRAND counter-offer, if he commits to conclude a binding license agreement and he does not frustrate negotiations, or accepts third party FRAND determination. In case of failure of the FRAND licensing negotiation, the Commission considered the acceptance of binding third party determination of FRAND terms still as willingness to enter into a FRAND license. While German courts applying the Orange-Book doctrine require no-challenge or termination clauses, these conditions were deemed by the EC as anticompetitive, and against the public interest. From Motorola, challenging validity, essentiality or infringement of the SEP reflects the right of defense and due process, and is not equal to unwillingness, provided a third party determination of

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[208] In fact, this is what makes an industry locked-in to a standard; see M. ANGELI, "Willing to Define Willingness: The (Almost) Final Word on SEP-Based Injunctions In Light of Samsung and Motorola", *Journal of European Competition Law & Practice*, 2015, vol. 6, n. 4, at p. 230.

FRAND is agreed upon. The Commission denied any conflict with Orange-Book doctrine, since it involved a *de facto* standard, whose SEP was not FRAND-encumbered.

Overall, the EC interpreted the FRAND licensing commitment as a procedure by which adequate remuneration of the SEP-holder is determined, leaving the standard accessible to every willing licensee. On the side of the SEP-holder, if he offers to engage in a FRAND licensing framework, as *Samsung*, he will not abuse its dominant position when seeking injunctions against a SEP-infringer who is unwilling to enter such negotiations, namely holding-out. On the side of the potential licensee, if he commits to the procedure, while not necessarily accepting every term presented, nor the royalty level, as Apple in *Motorola*, it is still adhering to FRAND, and it benefits of the safe harbor from SEP-based injunctions, being immune from hold-up.

ii) Critics

The argument for which a request for an injunction raises hold-up anticompetitive effects, resulting in the implementer accepting disadvantageous licensing terms absent the injunction unacceptable, is circular: injunction requests prevent hold-out anticompetitive effects, because without them, the SEP-holder would be obliged to agree to disadvantageous licensing terms or to tolerate continued unlicensed use of its SEP. Aware of the hold-out risks, the EC reputed SEP-based injunctions in breach of Article 102 TFEU only in the exceptional circumstances of FRAND terms commitment and willingness of the licensee, while absent any objective justification. However, the alleged infringer can still disagree on the FRAND royalties demanded by the SEP-holder, on the termination clause, and on its past infringements, while benefiting from the injunction safe-harbor. If SEP-owners can't use injunctions to get the infringers on the negotiating table, they might be discouraged from investing in R&D, and from participating to SSOs, not contributing anymore their technologies to standards on FRAND licensing terms. In the found exceptional circumstances the EC reduced the property right of the SEP-holder to a right of effective compensation, limiting its exclusionary function because of the particularities of the voluntary standardization process.

The approach of the EC gives rise to constitutional issues with regard to civil rights. In democratic countries governed by the rule of law, litigating parties have the right to have their dispute decided by a final and binding judgment of a competent court. Neither parliament nor government may interfere in cases brought before the courts: starting competition law infringement proceedings against an undertaking, which has sought an injunction before a national patent judge, because its SEPs are FRAND-encumbered, is hardly reconcilable with the fundamental right of access the court, and with the principle of separation of powers. Under the EC's approach there is the risk of forcing the SEP holder to accept a lower royalty than the FRAND one he demanded, to avoid the risk of having the EC making a finding of abuse. Compensatory damages for past infringement do not impede future use; only a cease and desist order stops the illegal use of the patent. In the EC's FRAND procedure, even if the potential licensee clearly refuses to agree to the FRAND terms demanded, the SEP holder must nevertheless allow him to use the SEP, and wait until a judge or an arbitrator tells him whether his price was FRAND. Injunctions are still needed against sophisticated implementers, willing to take licenses on a patent-by-patent basis only after having litigated each infringement all the way, so dragging out the negotiation as long as possible.

The decisions left unclear what a FRAND royalty rate is, and how courts and arbitrators should set it in case of disagreement; in such a case the key questions are first, if the SEP-holder had complied with his FRAND commitment, namely if the royalty he demanded was FRAND, and second, if the potential licensee was willing or not, besides agreeing to third party FRAND determination.

The Düsseldorf Regional Court perceiving a possible conflict between the domestic jurisprudence and the EC interpretation of Article 102 TFEU,[209] decided on April 2013 to stay the proceedings between

[209] The only information available from the EC at the time of the referral was a press release announcing the filing of a State of Objection to Samsung, suggesting, without more, that seeking injunctions is an abuse of dominant position if the SEP-holder had committed to FRAND licensing terms, and the infringer was willing to negotiate such license. Case C-170/13 *Huawei v ZTE* EU:C:2015:477, para. 34.

Huawei and *ZTE*[210], asking the CJEU to render a preliminary ruling pursuant to Article 267 TFEU.[211] The questions, as formulated by the referring Court, had imposed to the CJEU a choice between the two versions of the FRAND defense, but the European apical judicial authority has found a middle ground that we now analyze.

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[210] Landgericht are the specialized chambers of the regional courts that handle patent infringement proceedings. The Federal Patent Court in Munich separately hears patent validity. See H. GODDAR & C. HAARMANN, "Patent Litigation in Germany —An Introduction (I)", *China Intellectual Property*, 2013, n. 1-2, p. 68 to 72.

[211] Article 267 TFEU reads: *The Court of Justice of the European Union shall have jurisdiction to give preliminary rulings concerning:*
(a) the interpretation of the Treaties;
(b) the validity and interpretation of acts of the institutions, bodies, offices or agencies of the Union;
Where such a question is raised before any court or tribunal of a Member State, that court or tribunal may, if it considers that a decision on the question is necessary to enable it to give judgment, request the Court to give a ruling thereon.
Where any such question is raised in a case pending before a court or tribunal of a Member State against whose decisions there is no judicial remedy under national law, that court or tribunal shall bring the matter before the Court.
If such a question is raised in a case pending before a court or tribunal of a Member State with regard to a person in custody, the Court of Justice of the European Union shall act with the minimum of delay.

Chapter 3 *Huawei/ZTE*

On July 16, 2015, the Court of Justice delivered its judgment in *Huawei v ZTE*, setting out the circumstances under which, seeking a SEP-based injunction constitutes an abuse of a dominant position.

Paragraph A Dispute in the *A Quo* Proceedings

The request for the preliminary ruling was made in the course of a patent infringement dispute between Huawei Technologies and ZTE, two Chinese multinational and vertical integrated ICT companies,[212] with large IP portfolios of SEPs and non-SEPs, plus significant downstream operations selling standard-compliant end-products. The patent in suit was Huawei's European patent titled *Method and apparatus of establishing a synchronization signal in a communication system*, granted within the EPC by Germany. Huawei in March 2009, declared its patent to ETSI as essential for LTE, the European fourth generation mobile telecommunication standard (4G),[213] and committed to license it on FRAND terms.[214] ZTE marketed in Germany base stations equipped with LTE software, so inevitably using Huawei's SEP. Between November 2010 and the end of March 2011, Huawei and ZTE engaged in discussions concerning *inter alia* the infringement of Huawei's SEP, and the possibility of concluding a license on FRAND terms for the base stations. In the negotiations, Huawei indicated the amount considered as a reasonable royalty, while ZTE sought a cross-license plus balancing payments (i.e. some royalty paid on top). No specific licensing offer was

[212] It is significant of changing times that a key EU decision is being set for the first time by Chinese tech giants rather than US ones; it shows the global reach of EU competition law in ICT, as noted in J. KILLICK & S. SAKELLARIOU, "Huawei v. ZTE – No More Need to Look At The Orange Book In SE Disputes", *Competition Policy International,* September 2015.

[213] More than 4700 patents have been declared essential for LTE; if truly standard-essential, anyone using LTE inevitably uses the teaching of the SEPs. Case C-170/13 *Huawei v ZTE* EU:C:2015:477, para. 40.

[214] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 21-23.

exchanged, and the negotiation failed. ZTE continued to market its base stations in Germany thus infringing Huawei's SEP.[215]

On April 2011, Huawei brought an action for infringement against ZTE before the Düsseldorf Regional Court, seeking an injunction prohibiting the continuation of the infringement, the rendering of accounts, the recall of products, and an award of damages.[216] Because of Germany's bifurcated patent enforcement system, ZTE could react on grounds of invalidity only before the European Patent Office (hereinafter EPO), filing an opposition to the grant of Huawei's patent; the EPO on January 2013, confirmed the validity of the patent, and rejected the opposition of ZTE, who then appealed. Meanwhile, in the infringement proceedings, the Düsseldorf Court found the SEP infringed, and it was convinced that ZTE would never achieve its invalidation. In this sticky situation, ZTE raised the FRAND defense, available in Germany under the judge-made Orange-Book doctrine, arguing that Huawei refusing to license its FRAND-encumbered SEP, and subsequently seeking injunctive relief, breached Article 102 TFEU. To benefit from the FRAND defense, ZTE, after the EPO rejected its invalidity opposition, made itself a more willing licensee, offering to Huawei a cross-license agreement plus a lump-sum royalty of Euro 50.[217]

The referring court perceived a potential conflict between the relevant German case law, and the novel legal standard proposed by the EC in *Samsung*. Following the domestic jurisprudence the injunction should have been granted, since ZTE had infringed upon Huawei's SEP, and it did not satisfy the Orange-Book requirements.[218] Adopting instead the EC's approach the injunction request could have been dismissed relying on the mandatory nature of the FRAND-encumbered SEP license, pursuant to Article 102 TFEU, if by its action Huawei were to be regarded as abusing its unquestionable dominant position, and ZTE were

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[215] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 24 to 26.

[216] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 27.

[217] For the calculus of this royalty see Attorney General Wathelet's opinion, note 58.

[218] Neither ZTE's offers were unconditional since they were limited exclusively to the infringing products, neither he rendered accounts for past acts of use, neither he paid the royalty that it had itself calculated (50 Euro).

to be considered a willing licensee.[219] The Düsseldorf Court stayed the proceedings, and sought the CJEU's guidance to solve the impasse of whether Huawei abused its dominant position by seeking an injunction, referring five questions for a preliminary ruling.

Paragraph B Preliminary Ruling Referral

The order for reference posed specific questions on SEPs cases, wanting to know whether to use the Orange-Book doctrine or the EC's approach, as evinced from the press release in the Samsung case,[220] when

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[219] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 28 to 35.

[220] The referral questions were as follows:

1. Does the proprietor of a [SEP] *who informs a* [SSO] *that he is willing to grant any third party a licence on* [FRAND] *terms abuse his dominant market position if he brings an action for an injunction against a patent infringer although the infringer has declared that he is willing to negotiate concerning such a licence? or*

is an abuse of the dominant market position to be presumed only where the infringer has submitted to the proprietor of a [SEP] *an acceptable, unconditional offer to conclude a licensing agreement which the patentee cannot refuse without unfairly impeding the infringer or breaching the prohibition of discrimination, and the infringer fulfils his contractual obligations for acts of use already performed in anticipation of the licence to be granted?*

2. If abuse of a dominant market position is already to be presumed as a consequence of the infringer's willingness to negotiate: Does Article 102 TFEU lay down particular qualitative and/or time requirements in relation to the willingness to negotiate? In particular, can willingness to negotiate be presumed where the patent infringer has merely stated (orally) in a general way that that he is prepared to enter into negotiations, or must the infringer already have entered into negotiations by, for example, submitting specific conditions upon which he is prepared to conclude a licensing agreement?

3. If the submission of an acceptable, unconditional offer to conclude a licensing agreement is a prerequisite for abuse of a dominant market position:

Does Article 102 TFEU lay down particular qualitative and/or time requirements in relation to that offer? Must the offer contain all the provisions which are normally included in licensing agreements in the field of technology in question? In particular, may the offer be made subject to the condition that the [SEP] *is actually used and/or is shown to be valid?*

4. If the fulfilment of the infringer's obligations arising from the licence that is to be granted is a prerequisite for the abuse of a dominant market position:

determining the abusive nature of injunctive relief based on FRAND-encumbered SEPs. As a preliminary reference case, the CJEU provides its interpretation of the applicable principles of EU law, responding only to the questions asked, but leaving to the referring court the task of applying those principles to the dispute at hand. Equally, the CJEU is not reviewing, or ruling on the legality of any EC decision.[221]

By the first question, the court asked if an owner of a FRAND-encumbered patent abuses its dominant position when seeking an injunction against a willing licensee; alternatively, it was asked if such SEP-holder abuses its dominant position when the alleged infringer fulfills the Orange-Book requirements. As a subordinate layer, the second, third and fourth questions respectively queried what forms should be taken by the infringer's willingness to negotiate, by its offer and by the acts of fulfillment of the FRAND obligation under the license to be granted. On the side, the last question concerned the availability of patent-infringement remedies other than injunctive relief.

All questions took the willing licensee test for granted as the right framework for the assessment of the abusive nature of the seeking of SEP-based injunctions under Article 102 TFEU. Accordingly the solution depended on the concept of willingness to license, which can range from the EC's interpretation, where even in case of disagreement on the specific FRAND terms and conditions, it suffices to agree on third party FRAND determination, to the other extreme of the Orange-Book doctrine, requiring the potential licensee to make an offer the SEP-holder cannot refuse (i.e. the godfather offer), and to act as if licensed. The referring court tipped in favor of Orange-Book, practically asking

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Does Article 102 TFEU lay down particular requirements with regard to those acts of fulfilment? Is the infringer particularly required to render an account for past acts of use and/or to pay royalties? May an obligation to pay royalties be discharged, if necessary, by depositing a security?

5. Do the conditions under which the abuse of a dominant position by the proprietor of a [SEP] *is to be presumed apply also to an action on the ground of other claims (for rendering of accounts, recall of products, damages) arising from patent infringement?*

[221] For further reading, compare D. Chalmers, G. Davies & G. Monti, "European Union Law", 2nd edition, Cambridge University Press (2010), Chapter 4, pp. 149-168.

whether or not the German case law complied with Article 102 TFEU.[222] Furthermore, the decision to seek guidance directly from the CJEU rather than from the EC under Article 15 of Reg. 1/2003[223] might have been an attempt to sentence the EC to silence on *Samsung*, pending the resolution of the referral. This, however, did not happen.

The opinion of the Advocate General (hereinafter AG) anticipated the judgment of the CJEU, treating the underlying issues a bit more extensively since it also touched the assessment of the dominant position, unquestioned by the referring court.

Paragraph C Advocate General Whathelet's Opinion

The AG delivered its non-binding opinion on November 20, 2014.[224] The opinion first assessed the case, and then answered the questions.

i) Case-Assessment

As a preliminary remark, the AG considered that SEPs cases derive mainly from a lack of clarity in the content of the FRAND commitment, something that could be resolved by mechanisms other than competition law.[225] He also suggested that SSOs adopt *rules of good conduct* for the negotiation of FRAND licensing terms, to avoid the use as negotiating leverages of both patent law injunctions, and competition law ban on the misuse of market power.[226] Next, the AG recalled the legal context, first the relevant fundamental rights recognized and

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[222] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 36 to 38.

[223] As the Mannheim District Court instead did with regard to the FRAND rate determination in the dispute between Apple and Motorola.

[224] Pursuant to Article 252 TFEU The Advocates General assist the CJEU submitting non-binding, impartial and independent opinions on any case brought before the Court. The AG acts as a legal representative of the public interest. See D. Chalmers, G. Davies & G. Monti, "European Union Law", 2nd edition, Cambridge University Press (2010), Chapter 4, p. 145.

[225] Case C-170/13 *Huawei/ZTE* Opinion of the AG Wathelet [2014] EU:C:2014:2391, para. 7-9.

[226] Case C-170/13 *Huawei/ZTE* Opinion of the AG Wathelet [2014] EU:C:2014:2391, EU:C:2014:2391, para. 11.

protected by the Charter, then the patent infringement remedies provided by the IPR Enforcement Directive, and finally ETSI IPRs Policy.[227]

Although noting that the referred questions significantly borrowed from the Orange-Book doctrine, he excluded its analogic application by identifying significant factual differences that distanced *Huawei/ZTE* from the German case. Alike the EC in its decisions, he considered that Orange-Book involved a *de facto* standard, whose SEP was not FRAND encumbered; absent the FRAND commitment to constrain the SEP-holder's negotiating power, he admitted that injunctions could be considered abusive pursuant to Article 102 TFEU, only if the royalty demands were clearly excessive.[228] Wathelet also recognized that *Huawei/ZTE* involved a FRAND encumbered SEP like the Commission's cases, nevertheless he considered that

…mere willingness…of the infringer to negotiate in a highly vague and non binding fashion cannot…be sufficient to limit the SEP-holder's right to bring an action for a prohibitory injunction.

Because adopting the Orange-Book doctrine would lead to over-protection of the SEP-holder, while using the EC's vision would result in its under-protection, the AG submitted to the principle *in medio stat virtus*.[229]

The referring Court assumed Huawei's dominant position, yet the AG underlined that SEP ownership does not imply market dominance pursuant to Article 102 TFEU, which is a factual circumstance to be established by national courts on a case-by-case basis.[230] Competition from non-standardized products or from products implementing rival

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[227] Case C-170/13 *Huawei/ZTE* Opinion of the AG Wathelet [2014] EU:C:2014:2391, para. 12 to 25.

[228] Case C-170/13 *Huawei/ZTE* Opinion of the AG Wathelet [2014] EU:C:2014:2391, para. 47 to 49.

[229] The Latin maxim means virtue is in the middle. Opinion of the AG Wathelet, 20 November 2014, Case C-170/13 Huawei v ZTE, EU:C:2014:2391, para. 52.

[230] Case C-170/13 *Huawei/ZTE* Opinion of the AG Wathelet [2014] EU:C:2014:2391, para. 53 to 58.

standards, as well as licensees' countervailing power could offset the patent essentiality, thus diminishing the SEP-holder's market power.

The AG then pondered the interest at stake, namely, the right to IP and the right of access to courts, against the freedom to conduct business.[231] Regarding the IPR, the FRAND commitment does not waive the patentee's right to enforce infringement remedies, and settled case law maintains that the exercise of an exclusive IPR, like seeking injunctions, can be considered as an abuse of dominance only in exceptional and strict circumstances.[232] Wathelet compared the FRAND licensing commitment to a license of right, whereby injunctions cannot be sought.[233] Likewise, the exercise of the right to access the courts cannot in itself be an abuse of a dominant position, and again the contrary can be established just in wholly exceptional circumstances.[234]

When considering the freedom to carry on a business, the AG referred to the case law on abusive refusal to supply, and he noted that those precedents, like *Huawei/ZTE,* involved IPRs essential to pursue a particular economic activity (so-called essential facilities), but differently from the proceedings at hand as they were not FRAND-encumbered. Neither the FRAND commitment, nor the seeking of an injunction amount to a refusal to supply, therefore the case law stemming from *Magill* is only partially relevant in *Huawei/ZTE*.[235] However, by declaring the patent essential to a standard, and committing to FRAND licensing terms, Huawei induced the standard-implementers in a relationship of technical and economic dependence (i.e. lock-in), which Huawei itself could be capable of abusing in anticompetitive ways, for instance, by seeking injunctions without objective justification against a

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[231] Case C-170/13 *Huawei/ZTE* Opinion of the AG Wathelet [2014] EU:C:2014:2391, para. 59.

[232] Case C-170/13 *Huawei/ZTE* Opinion of the AG Wathelet [2014] EU:C:2014:2391, para. 60 to 63.

[233] Case C-170/13 *Huawei/ZTE* Opinion of the AG Wathelet [2014] EU:C:2014:2391, para. 65.

[234] Case C-170/13 *Huawei/ZTE* Opinion of the AG Wathelet [2014] EU:C:2014:2391, para. 66-67.

[235] Case C-170/13 *Huawei/ZTE* Opinion of the AG Wathelet [2014] EU:C:2014:2391, para. 68-69.

user ready, willing and able to take a license.[236] Nevertheless, such an abuse of a dominant position in the context of standardization and of FRAND-encumbered SEPs could be established only after having examined the conduct of the SEP-holder, and the willingness of the licensee.[237]

ii) Solution Proposed

The AG proposed a specific framework within which licenses of FRAND-encumbered SEP should be negotiated. Unlike normal patents,[238] he admitted that FRAND-encumbered SEP licenses could be negotiated and concluded after an infringement, since the SEP infringer could have implemented the standard ignoring that a valid SEP covered a particular feature.[239] According to Wathelet, to discharge the special responsibility deriving from Article 102 TFEU, a dominant SEP-holder, before seeking injunctions, must take specific steps.

First, the SEP-holder must alert the alleged infringer in writing about the infringement, specifying the SEP concerned and how it has been infringed; this requirement is not burdensome since the use of standard-compliant product easily show who is using one's own SEPs, and those specification are due when substantiating an action for a prohibitory injunction. The alert is unnecessary if it is established that the alleged infringer knows about the infringement.

Second, the SEP-holder must submit to the alleged infringer a written offer for a FRAND license, containing all industry customary

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[236] The abuse of economic dependence is expressly prohibited in several Member States like France and Italy. According to the AG such abuse could fall within the criteria set out by the CJEU Volvo case. Case C-170/13 *Huawei/ZTE* Opinion of the AG Wathelet [2014] EU:C:2014:2391, para. 71 to 74.

[237] Case C-170/13 *Huawei/ZTE* Opinion of the AG Wathelet [2014] EU:C:2014:2391, para. 75.

[238] Case C-170/13 *Huawei/ZTE* Opinion of the AG Wathelet [2014] EU:C:2014:2391, para. 77.

[239] The AG highlighted that more than 4700 patents had been notified to ETSI as essential for the LTE standard, and a large quantity of those could be invalid or not truly essential; requiring standard-users to conduct such patent searches would render implementing the standard impractical. Case C-170/13 *Huawei/ZTE* Opinion of the AG Wathelet [2014] EU:C:2014:2391, para. 78 to 82.

terms, specifying in particular the amount of the royalty and its calculus. For the AG the duty of the SEP-holder to present such offer it is not disproportionate, rather implicit in its FRAND commitment, whereby it has accepted to exploit the SEP through FRAND licenses and not to restrict its access. Moreover, the AG concluded that the non-discriminatory part of FRAND can only be fulfilled by the SEP-holder's offer, especially if it has already confidentially granted other licenses.[240]

On the other side, the alleged infringer *must respond in a diligent and serious manner*; whereas it does not accept the offer, with no delay it must present to the SEP-holder a written reasonable counter-offer, specifying the dissented terms. This requirement is breached if the infringer's conduct is purely tactical, dilatory or unserious. The AG considered that the time frame of the negotiations depends on the *commercial window of opportunity* over which the SEP-holder relies to secure consideration.[241]

Thereinafter, he sent back to the referring court the responsibility to verify if Huawei and ZTE respected this FRAND negotiating framework, assessing in particular whether Huawei's offer, and ZTE's counter-offer were FRAND. Afterwards, the AG included that the alleged infringer's request of third party FRAND determination corresponds to licensing willingness, yet in such a case, as well as in the event the alleged infringer reserved the publicly interested right to challenge the validity, infringement or essentiality of the licensed SEP, he also recognized as legitimate for the SEP-holder to demand the standard-implementer a bank guarantee, or to deposit a provisional sum to secure the payment of the royalties.[242]

Answering the fourth question, Wathelet explicitly rejected the need to fulfill the Orange-Book second requirement, namely a potential licensee of a FRAND-encumbered SEP does not need to behave as if

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[240] Case C-170/13 *Huawei/ZTE* Opinion of the AG Wathelet [2014] EU:C:2014:2391, para. 83-86.
[241] Case C-170/13 *Huawei/ZTE* Opinion of the AG Wathelet [2014] EU:C:2014:2391, para. 89.
[242] Case C-170/13 *Huawei/ZTE* Opinion of the AG Wathelet [2014] EU:C:2014:2391, para. 93 to 96.

licensed, in order to be considered willing. Finally, regarding the last question, the AG opined that actions for the rendering of accounts, and damage claim do not bear the said restrictions, as injunctive relief and the recall of product do. The middle path adopted by the AG has been largely followed by the CJEU's judgment.

Paragraph D The Judgment

Called to rule on the interpretation of Article 102 TFEU, the CJEU gave a concise judgment, with just 77 paragraphs plus the operative part.[243]

i) Case-assessment

Like the AG, the Court started defining the legal context; it recalled the three dimensions of patent law that apply in the *a quo* infringement dispute: the EPC internationally, the EU IPR Enforcement Directive, and the relevant German domestic law.[244] The CJEU showed subtly that whether the preliminary ruling turned out to be about patent infringement, it would had lacked jurisdiction, since patents are territorial rights governed by the domestic law of the Member States.[245] Also the ETSI rules were reminded, highlighting altogether their binding contractual nature and the vagueness of the FRAND concept.[246]

In its ruling the Court balanced the interests of maintaining free competition and safeguarding the rights to IP and to effective judicial protection.[247] The CJEU considered questions one to four, plus the fifth limited to the recall of products part, as asking in substance:

...in what circumstances the bringing of an action for infringement, by an undertaking in a dominant position and holding an SEP, which has given an undertaking to the [SSO] to grant licenses to third parties on FRAND terms, seeking an injunction prohibiting the

[243] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477.
[244] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 1 to 11.
[245] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 4.
[246] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 12 to 20.
[247] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 42.

infringement of that SEP or seeking the recall of products for the manufacture of which the SEP has been used, is to be regarded as constituting an abuse contrary to Article 102TFEU.[248]

The reasoning started making reference to the settled case law, which excludes that the exercise, even by a dominant undertaking, of an exclusive right linked to an IPR, can constitute an abuse of a dominant position, but in exceptional circumstances.[249] Following the AG's opinion, the Court distinguished that settled case-law from the *a quo* proceedings, finding a new set of exceptional circumstances: first the patent in suit had been declared as essential to ETSI for LTE, meaning competitors cannot design it around without compromising the implementation of the standard; second ETSI included the patented technology into LTE, and granted the corresponding essential status, only in consideration of the patentee irrevocably committing to FRAND licensing terms. Notwithstanding the SEP-holder's right to access the court to enforce its patent, injunctions or the recall of products can exclude competition from the market for standardized products, contrary to the very purpose of the voluntary standardization process,[250] and to the

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[248] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 44.

[249] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 46-47.

[250] When picturing the legal context, the Court cited ETSI IPRs Policy, rule 3 Policy Objectives, which reads:
3.1 It is ETSI's objective to create standards… based on solutions which best meet the technical objectives of the European telecommunications sector... In order to further this objective the ETSI IPR policy seeks to <u>reduce the risk to ETSI, members, and others applying ETSI standards…that investment in the preparation, adoption and application of standards could be wasted as a result of an essential IPR for a standard…being unavailable</u>. In achieving this objective, the ETSI IPR policy seeks a balance between the needs of standardization for public use in the field of telecommunications and the rights of the owners of IPRs.
3.2 IPR holders whether members of ETSI and their affiliates or third parties, should be adequately and fairly rewarded for the use of their IPRs in the implementation of standards…
3.3 ETSI shall take reasonable measures to ensure... that its activities… enable standards… to be available to potential users in accordance with the general principles of standardization. [emphasis added].

standard-implementers' legitimate expectations induced by the FRAND commitment.[251] For the CJEU, the standard-essentiality and the FRAND commitment constitute such exceptional circumstances that could make the patentee's refusal to license its SEP on FRAND terms, contrary to Article 102 TFEU, thus enabling the standard-implementer to defend himself against the SEP-holder seeking injunctions, by claiming the abusive nature of the refusal.[252] However, the CJEU recognized that seeking injunctive relief does not necessarily mean refusing to license, especially if the parties do not agree on the FRAND terms, like in *Huawei/ZTE*. Under Article 102 TFEU, the owner of a FRAND-encumbered SEP is obliged to grant a license only on FRAND terms, far from being deprived of the patent enforcement remedies guaranteed by the rights to IP and to effective judicial protection. In other words, the FRAND commitment and Article 102 TFEU do not comport the *per se* abusiveness of the request for injunctive relief, rather the rights to IP and to effective judicial protection comport the *per se* lawfulness of any enforcement remedy, unless exceptional circumstances are established.[253]

ii) Answers

Because of the exceptional circumstances, synthetized in a FRAND-encumbered SEP, the SEP-holder must respect certain duties not to breach Article 102 TFEU when seeking injunctions against an alleged infringer. Before pursuing any injunctive action, the SEP-holder must alert the alleged infringer of the infringement, specifying the SEP and how it has been infringed.[254] The rationale of such alert is the same provided by the AG,[255] namely for the large number of SEPs covered by a standard, the alleged infringer might be unaware of using a technology read on by a valid SEP; accordingly the alert is due even after the alleged

[251] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 48 to 52.
[252] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 53-54.
[253] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 55-58.
[254] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 59-61.
[255] For a Comparison of Huawei/ZTE Judgment and AG's Opinion, see Annexes, Table 10 Difference Between AG's Opinion and CJEU's Judgment.

infringement has begun.[256] Afterwards, if the alleged infringer has expressed its willingness to conclude a FRAND license,[257] the SEP-holder must present it a specific, written offer for a license on FRAND terms, including, *inter alia,* the amount of the royalty and its calculus. Again the logic matches the opinion of the AG: the SEP-holder is expected to do such an offer because of its FRAND licensing engagement to the SSO, and also because it can best fulfill the ND part of its commitment, especially if it has confidentially licensed the same SEP.[258]

Received the offer, it is up to the alleged infringer to diligently respond

…in accordance with recognized commercial practices and in good faith, a point which must be established on the basis of objective factors and which implies, in particular, that there are no delaying tactics.[259]

Whether the alleged infringer does not accept the offer, it may argue that the request for an injunction is illegal only if it has presented the SEP-holder, promptly and in writing, a specific FRAND counter-offer. Moreover, if the SEP is already used before a license is concluded, the alleged infringer must, from the moment its counter-offer is rejected,[260] account for its acts of use, and secure an appropriate amount to cover them, following the industry customs like a bank guarantee or deposit.

If offer and counter-offer were to fail, the parties may agree to an independent third party determination of the FRAND terms, without delay. Finally, because the standard-essentiality of a patent is self-

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[256] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 62. The CJEU, contrary to the AG, did not explicitly exclude the alert obligation in case the alleged infringer is aware of the infringement.

[257] Differently, the AG required the SEP-holder to submit a FRAND offer *in any event*, namely irrespective of the express intent of the user (Opinion para. 85).

[258] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 63-64.

[259] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 65.

[260] Case C-170/13 *Huawei/ZTE* Opinion of the AG Wathelet [2014] EU:C:2014:2391, para. 93. The AG suggested an obligation to provide security only upon the SEP-holder’s request.

declared without review from ETSI, the alleged infringer cannot be considered unwilling for reserving, after the conclusion of the license, the right to challenge the validity, essentiality or infringement of the licensed SEPs, or to do so in parallel to licensing negotiations. The CJEU left it to the referring court to establish if Huawei and ZTE had satisfied the aforementioned criteria.[261]

Answering the last question, the Court held that legal proceedings brought by a dominant SEP-holder to obtain the rendering of accounts, or an award of damages for the infringement of its FRAND-encumbered SEP, do not bear the aforementioned duties, since such actions do not exclude competing standard-compliant products from appearing or remaining on the market.[262]

This judgment was much awaited, yet its reception was not free from critics. The CJEU attained to the principle of *petitum*, not to exceed its jurisdiction. The legal uncertainty between the Orange-Book doctrine and the EC's approach has been dispelled, but what was untouched before *Huawei/ZTE*, so it remains after.

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[261] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 66 to 70.

[262] Because claims for past damages and rendering of accounts may be filed regardless the opening of negotiations with the alleged infringer, the SEP-holder can therefore exert considerable pressure on it. Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 72 to 76.

Chapter 4 Outcomes of Huawei

Huawei/ZTE is settled case law and thus provides legal certainty regarding the enforcement of FRAND-encumbered SEPs. The CJEU, ruling that the owner of an allegedly infringed FRAND-encumbered SEP does not breach Article 102 TFEU as long as it follows a specific procedure, while the alleged infringer does not, has created a new test of abuse of dominance, where the conducts of both the patentee and accused infringer are taken into account.[263] In the contrast between the rights to IP and to effective judicial protection, against the freedom of competition, the Court has rendered its balance of interests, being constrained neither by the German case law nor by the EC's enforcement approach.

Paragraph A New Exceptional Circumstances

The judgment balanced the interests of SEP holders with concerns of implementers and consumers. On the side of SEP-holders it has clarified that they always retain the right to access the court to enforce their patents against alleged infringers. Indeed, injunctions are not refusals to license but legitimate remedies against standard-implementers that ignore or reject a FRAND offer, or intentionally fail to seek a license, or systematically engage in patent infringement, and litigate each patent only accepting to pay for found infringed patents. To proscribe injunctions as anticompetitive may harm dynamic competition insofar it allows infringers to disguise themselves as willing licensees, so to hold-out and delay compensation of SEP-holders, which in turn, are hindered from investing in R&D and contributing their critical technologies to common standards.

However, the CJEU considering the interest of free competition, referred to its established case law that admits in exceptional circumstances limitations to the exercise of exclusive IPRs. Recalling the jurisprudence on abusive refusal to supply, and not the one on abusive litigation, the Court focused on the potential exclusionary effects that the use of injunctions can produce on the product market, when SEP-holders

[263] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, operative part.

have agreed to FRAND licensing terms, but refuse to enter such licenses.[264] However, the CJEU recognized that the facts of *Huawei/ZTE* did not exactly fit into the cited case law, but rather than concluding for no abusive conduct, it found new exceptional circumstances.[265] The first is the declared standard-essentiality of the patent, which prevents competition by substitution, since standard-implementers cannot design the SEP around to manufacture standard-compliant products without compromising their essential functions. The second exceptional circumstance is the FRAND irrevocable commitment, which constitutes the consideration for the recognition of the standard-essentiality; the Court noted that this engagement creates legitimate expectations on standard-implementers that the SEP-holder will actually grant licenses on such terms.[266] At first, these two new exceptional circumstances appear to lower the threshold for antitrust intervention on the exercise of IPRs.[267] Yet, the CJEU required that the injunction preventing the use of the SEP, in addition to compromise the essential functions of the standard-compliant product, it also reserves the downstream product market for the SEP-holder itself. In this way the new exceptional circumstances were reconciled with the conventional abusive refusal to supply case law, requiring proof of very significant horizontal foreclosure.[268]

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[264] The CJEU analyzed the seeking of injunctive relief as possible exclusionary conduct, and not as exploitative conduct such as charging excessive or unfairly high royalties, showing its general diffidence to use competition law to police prices.

[265] Like the EC in Motorola, the CJEU held that the list of exceptional circumstances is not exhaustive.

[266] N. BANASEVIC, "The Implications of the Court of Justice's Huawei/ZTE Judgment", *Journal of European Competition Law & Practice*, 2015, vol. 6, n. 7.

[267] Although in line with the seven years old approach proposed by EC officials Madero and Banasevic, who suggested tying antitrust scrutiny to the conferral of market power by the standardization process on the SEP-holder. See C.V. MADERO & N. BANASEVIC, "Standards and Market Power", *CPI Antitrust Chronicle*, 2008, vol. 5, n. 1.

[268] A critic might be that foreclosure of rivals applies only to a specific subset of SEPs (not all SEPs are essential to compete in the market) and SEPs holders (if the SEP holder is a pure innovator and it does license exclusively its SEPs to a competitor of the infringer, probably the injunction should be granted).

After having found the exceptional circumstances in the standard-essentiality of the patent and in the FRAND commitment,[269] the Court did not conclude for a straight abuse of a dominant position, but rather, because of the fundamental value of the rights to IP and to access the court, it reversed the test of abuse. The FRAND encumbered SEP-holder seeking an injunction does not abuse its dominant position as long as it has followed a certain good governance procedure, while at the same time the alleged infringer has not.

Paragraph B Reversed Test of Dominance Abuse

To ensure a fair balance of the interests concerned, the CJEU departed from the abusive refusal to supply cases. In *Huawei/ZTE* the exceptional circumstances justified the imposition to the SEP holder of an obligation to comply with specific requirements when seeking injunctions against alleged infringers, while at the same time they did not exclude the normal obligations pending on the standard implementer with respect to the patent right. According to the Court, the dominant SEP-holder does not infringe Article 102 by seeking an injunction, and presumably it should obtain the injunctions, as long as:

1) Before bringing an action for an injunction, it has alerted the alleged infringer by indicating the patent and the way it has been infringed. If the implementer does not express willingness to obtain a FRAND license, the SEP-holder can proceed to claim injunctive relief without antitrust risk. For the Court, given the amount of SEPs covered by a standard like LTE, the specific obligation to notify the SEP-user outweighs the general obligation to obtain a license prior to use.

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[269] This seems to imply that for *de facto* standards the old exceptional circumstances cases *Magill/IMS Health* still apply. The abusive nature of a prohibitory injunction can arise if there is a breach of the legitimate expectation of third parties. This legitimate expectation to be able to license a product exists because of the nature of SEPs. SEP status can only be obtained from an SSO in exchange of the proprietor's irrevocable commitment to grant licenses on FRAND terms. CJEU and AG link SEP to a legitimate expectation of third parties to obtain a license due to initial FRAND commitment. This definition limits the antitrust defense against prohibitory injunctions to formal SEPs.

2) Inasmuch the alleged and alerted infringer has then expressed willingness to license,[270] the dominant SEP-holder has presented a detailed written offer for a FRAND license, in accordance with the undertaking given to the SSO,[271] including the amount and calculus of the royalty. For the CJEU the SEP-holder is better placed to satisfy the ND requirement of FRAND, especially because the license contracts are often confidential. If, after the offer, the alleged infringer continues to use the SEP without promptly and diligently responding to the offer following the recognized industry practice and in good faith, which must be established objectively excluding in particular any delaying tactics,[272] the SEP-holder can proceed to claim injunctive relief without abusing its dominant position.

3) Whether the alleged infringer does not accept the FRAND licensing offer, it may rely on the abusive nature of the injunction claim only if it has promptly submitted the SEP-holder a written specific FRAND counter-offer.[273] The reference to FRAND offer and counteroffer implies that the CJEU considered FRAND terms as a range, rather than just one set of terms.

4) From the moment the counter-offer is rejected, it is up to the alleged infringer to render an account of the use of the SEP, and to provide appropriate security, following the recognized commercial practices in the field, like a bank guarantee or deposit, whose amount must cover the past acts of use.[274] After the failure of the counter-offer the parties may agree to third party determination of the FRAND royalty, without delay.[275] Finally the CJEU admitted the possibility that standard-

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[270] The timing of such demonstration is unclear; in practice this should be a minor hurdle for SEP-users to satisfy, and it is unlikely to be a big deal also because the SEP user can reserve the right to challenge validity, essentiality and infringement despite expressing its willingness to license.

[271] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para 63.

[272] By not tolerating infringers' delaying tactics, the CJEU recognized concerns of hold-out. See D. KALLAY, "The ECJ *Huawei-ZTE* Decision: En Route to Ending Hold-Out?", *CPI Antitrust Chronicle,* October 2015, n. 2.

[273] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para 66.

[274] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 67.

[275] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 68.

implementers challenge the validity, essentiality and infringement of the SEP in parallel to licensing negotiations, and even after conclusion of a license.

In the view of the CJEU, this procedure allows to conduct negotiations objectively, permitting to reach a FRAND license[276] without using injunctions or Article 102 TFEU as bargaining leverages, without threats of patent hold-up or hold-out. Undoubtedly, the FRAND defense resulting from *Huawei/ZTE* is unique, not accepting the German over-protection, or the EC's under-protection of the SEP-holder; nevertheless, the judgment is more removed from *Orange-Book* than from *Samsung* and *Motorola*.[277]

Paragraph C *Huawei/ZTE* and Orange-Book

In contrast to the AG, the Court mentioned the German decision only when recalling the dispute in the main proceedings and the questions referred; nevertheless the found exceptional circumstances evidently distanced the two cases. Being *Huawei/ZTE* about a *de consenso* standard, and a FRAND-encumbered SEP, the CJEU assumed that Orange-Book did not apply to that background, so it did not refer to its requirements, neither it explained why it deviated from them. However, the strong IP protection afforded by the German case-law vis-à-vis competition law is indirectly excluded by the CJEU insofar it has imposed to the SEP-holder certain procedural duties when seeking injunctive relief based on its FRAND-encumbered SEPs.[278]

First, while the SEP-holder under Orange-Book could remain passive, and wait the standard-implementer's godfather offer, under *Huawei/ZTE* it must do the first step alerting the unaware-user about the infringement, and even presenting it a written FRAND offer. As stated by the CJEU, the ND strand of the FRAND commitment can be better fulfilled by the SEP-holder, who alone knows the terms of its other

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[276] Provided the parties allow FRAND terms to be fixed by a third party.
[277] K. FOUNTOUKAKOS & N. ROOT, "*Huawei Technologies*: More Certainty on SEP Injunctions, But Not the End of the Story", *CPI Antitrust Chronicle,* October 2015, n.2.
[278] To what extent Huawei/ZTE applies to *de facto* standards is questionable.

confidential FRAND licenses; however, not to engage in reverse discrimination, the SEP-holder should be capable to insist on the user to accept the normal terms in all aspects, not accepting third party FRAND adjudication. Furthermore, in case of disagreement after the SEP-holder FRAND offer and SEP-user FRAND counter-offer, seeking injunctive relief still bears risk of antitrust liability: indeed the infringement court would have to determine whether both offer and counter-offer qualify as FRAND, and only if the first is FRAND and the second is not, an injunction should be granted.

Second, while under Orange-Book the alleged infringer had to behave from the point of its offer,[279] as if it was licensed, placing the royalties to be paid into escrow, in *Huawei/ZTE* the obligation to provide security starts from the moment the counter-offer is rejected, and explicitly covers only past acts of use.

Third, in case of failure of negotiations, the CJEU provided, upon common agreement of the parties, for third party determination of FRAND licensing terms, whereas the German unconditional SEP-user's offer had to let the SEP-holder determine the FRAND royalty, and only afterwards the alleged infringer could petition the court for redress.

Finally and most notably, pursuant to the right of access the court as guaranteed by Article 47 of the Charter, the Court ruled that the alleged infringer could challenge the validity, essentiality and infringement of a SEP, in parallel to licensing negotiations, and even after conclusion of a license, the very opposite of the German unconditional godfather offer. This means that SEP holders can no longer make their licenses conditional on users' agreeing to no challenge or termination clauses, consistently with the EC's decisions.[280]

Notwithstanding the diminution of protection of the patentee's rights from Orange-Book to *Huawei/ZTE*, it is still more than the one granted by the EC in *Samsung* and *Motorola*.

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[279] And even where it let the SEP-user determine the FRAND royalty.

[280] In practice licenses are usually concluded for entire patent portfolios to avoid any possibility of litigation, and since the parties are aware that many patents could be invalid or inessential (i.e. probabilistic nature of patents), they often consider only a bunch of them, so-called proud list, when fixing royalties.

Paragraph D *Huawei/ZTE* and the European Commission

The CJEU did not assess the relevant market and dominance, being these factual findings outside the scope of its jurisdiction under Article 267 TFEU, contrarily to what the Commission must do when enforcing competition law. Although *Huawei/*ZTE imposes duties on both the SEP-holder and the standard-implementer, the EC's willing licensee test and its standard-implementers safe harbor are not completely endorsed. For the EC seeking an injunction for a FRAND encumbered SEP is *prima facie* anticompetitive, unless objectively justified by SEP-holder, proving that the alleged infringer is unwilling or unable to conclude a FRAND license, whereby the willingness threshold is easily met by agreeing to third party FRAND adjudication. To the opposite, the Court stating that there is no abuse of dominance, as long as the SEP-holder respects a certain procedure, it did not reverse the burden of proof onto the SEP-holder but provided it a limited safe harbor. Under the EC's decisions, the burden of proving and substantiating the unwillingness rests on the dominant SEP holder, who has claimed injunctive relief, not on the EC or on the alleged infringer.[281]

The Court placed materially more obligations on the alleged infringer than the legal test set forth by the EC. To successfully raise the FRAND defense against an injunction request, the CJEU obliged the implementer to make a FRAND counter-offer, to behave diligently in accordance with recognized commercial practices[282] and in good faith, not employing delaying tactics.[283]

The CJEU considered and rejected the possibility that the alleged infringer could avoid an injunction merely by indicating its readiness to

[281] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 434.

[282] A critic is that German recognized commercial practices are the Orange-Book requirements, which in turn have been found in breach of Article 102 TFEU in *Motorola*.

[283] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para 9. Recognized commercial practices and good faith are concepts imported from German civil law.

third party FRAND determination; the Court provided such possibility as optional, only upon agreement of the parties, after the FRAND offer and FRAND counter-offer have failed.[284] Even if third party determination has been agreed upon, the determination should occur without delay, namely, the CJEU did not contemplate any mandatory negotiation period before the independent adjudication, contrary to the twelve months of Samsung's Licensing Framework. The underlying rationale of the urgency to render the FRAND adjudication is the need not to frustrate the SEP-holder's right to be remunerated for the use of its SEP.

In *Huawei/ZTE,* the interests of the SEP-holder are also better protected by the obligations of the alleged infringer to secure the payment of the license, and to account for the use of the SEP from the moment its counter-offer is rejected; the EC only in *Google/Motorola* merger clearance has validated the requirement for the standard-implementer to render account for SEP uses, and to guarantee the royalty payments during third party adjudication, as requested by Google's letter to the SSOs.[285]

Last but not least, the EC in *Motorola*[286] considered the no challenge and termination clauses as exploitative disadvantageous licensing terms, whereas for the Court challenging the validity, essentiality or infringement of a licensed SEP cannot be criticized,[287] that is to say such behavior does not militate in favor of an injunction being awarded.

The Court, in front of a choice between the German case law and the EC's approach, chose the middle path proposed by the AG, balancing the interests of implementers and consumers, on the one hand, and innovative SEP owners, on the other hand. In doing so, it tried to lay down good procedure guidelines for both parties, which if followed, make implementers immune from the threat of injunctions, while provide

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[284] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para 68.

[285] Case COMP/M.6381 *Google/Motorola Mobility* Commission Merger Clearance Decision of February 13, 2012 OJ C75 of 14 March 2012, para. 141-142.

[286] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 329 to 406.

[287] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 69.

a safe harbor from antitrust liability to patentees. In any event, the CJEU's ruling established the relevant antitrust criteria for the seeking and enforcing of FRAND-encumbered SEP infringement remedies, leaving their application through fact-intensive enquiries to national patent courts;[288] Orange-Book and the Commission's approach result of limited significance, relegated to the issues inevitably unresolved by *Huawei/ZTE*.[289]

[288] On 3 November 2015, the Düsseldorf court applied the *Huawei/ZTE* criteria in *Sisvel v Haier* and held that the defendant's distribution of GRPS and UMTS compatible mobile devices was infringing the respective plaintiff's SEPs. The court left open the question of whether Sisvel's portfolio-worldwide offer qualified as FRAND, because Haier from the moment its counter-offer was rejected did not provide appropriate security, and therefore it was not a willing licensee. Since Sisvel filed the patent infringement action before the CJEU's *Huawei/ZTE* ruling, the statement of claims was considered as a sufficient notice to the alleged infringer about the infringement. The Court also confirmed that Sisvel sent a license offer to Haier's mother company, without being necessary to address all affiliates of the group separately. See Sisvel News, *Injunctive relief for infringement of standard-essential patents – first German judgements after CJEU decision on FRAND,* November 30, 2015, and Landgericht Düsseldorf, Judgment of November 3, 2015, Joined Cases 4a O 93/14 and 4a O 144/14 Sisvel v Haier.

[289] For a visual comparison of the examined approaches on the FRAND defense, see Annexes, Table 11 Evolution of the FRAND Defense.

Section 3 The FRAND Defense after *Huawei/ZTE* (FRAND *de iure condendo*)

Chapter 1 Reception of the Judgment

Given the magnitude of interests at stake in the standardization process, guidance from the EU apical judicial authority was undoubtedly necessary. Overall *Huawei/ZTE* is a balanced judgment, since it recognizes that in SEPs disputes the dangers of strategic behavior rests on both parties. Defining in black on white the procedure to be followed both to seek an injunction, and to escape it through the FRAND defense, the CJEU has ensured judicial harmony and transparency within patent courts of Member States. Moreover, its legal certainty diminishes the wasting of resources by litigation, benefiting altogether industry participants and European consumers. Notwithstanding the added value deriving from the stare decisis effect of any paramount decision in comparison to a fragmented and uncertain legal context,[290] the Court exercised its jurisdiction under Article 267 TFEU. Constrained by the referral and by the facts in the *a quo* proceedings, it inevitably untouched many issues affecting the licensing of FRAND encumbered SEPs, where the scope for arguments persists both in favor of SEP-holders and of standard-implementers. As *Huawei/ZTE* was a much-awaited judgment, it has become extremely commented.

Paragraph A Literal Criticism

The literal tenor of the ruling provides the most evident ground for comments. There is a subtle discrepancy between the content of the judgment, and of the operative part, which alone binds national courts. Indeed, the CJEU defining the new exceptional circumstances it referred

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[290] M. JAKOBS AND F. HÜBENER, "SEP or no SEP? Open questions after Huawei/ZTE"*, European Competition Law Review,* 2016, vol. 37, n.1, p. 33-39.

to *competitors*,[291] while everywhere else used *alleged infringer*. The use of competitors, instead of competition, attracts the policy critic that Article 102 TFEU only protects competition, being the lawful harm of rivals the essence of antitrust law; furthermore, the term *competitors* might suggests that a different legal standard applies when SEP based injunctions are sought by pure licensing companies, not competing with the targeted standard-implementers. These two arguments reduce *Huawei/ZTE*'s application to exploitative abuses (i.e. anticompetitive leverages), and not to exclusionary acts, to the effect that PAEs, not constrained by the SEP-holders' requirements, would be given a free ticket to hold up.[292] Such a limited interpretation appears speculative, and it could be denied since the operative binding part used the broader term of *alleged infringer.* Perhaps, the use of *competitors* just reflects the underlying facts of the *a quo* proceedings, which involved two competing manufacturers. As Commissioner Vestager pointed out, the principles of *Huawei/ZTE* should not be limited to vertical integrated firms holding SEPs, and manufacturing standard compliant products, but apply to *whoever exercises the* [SEP] *in question,* regardless of the level of the distribution chain.[293]

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[291] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para 49, 52 and 73.

[292] As previously excluded by J. Almunia saying, "DG competition will hold patent trolls to the same standards as any other patent holder." See, J. ALMUNIA*,* then Vice President of the European Commission responsible for Competition Policy, "Intellectual property and competition policy", speech delivered at the 8th IP Summit (Paris) on December 9, 2013. In favor of such limited application see N. PETIT, "Huaweï v ZTE: Judicial Conservatism at the Patent-Antitrust Intersection", *CPI Antitrust Chronicle,* October 2015, n. 2.

[293] M. VESTAGER, Vice President of the European Commission responsible for Competition Policy, "Intellectual property and competition", speech delivered at the 19th IBA Competition Conference (Florence) on September 11, 2015. In her speech the Commissioner referred to injunctions being sought against phone distributors rather than manufacturers, namely to the St. Lawrence v Deutsche Telekom case: in March 2015, the Mannheim District Court granted a SEP-based injunction to St. Lawrence, a pure licensing company, against Deutsche Telekom, which infringed that SEP by distributing handsets using St. Lawrence's technology, and was found unwilling to take a license. In April 2015, the Karlsruhe Appellate Court disagreed and suspended the enforcement of the injunction, since St. Lawrence had abused its

The alleged infringer's requirements to provide security and to render account from the time its FRAND counter-offer is rejected,[294] its challenging of the licensed or yet-to-be-licensed SEPs,[295] and the parties agreement to third party FRAND determination,[296] are all outside the operative part; as obiter dicta, their binding value for the lawful issuance of an injunction could be questionable. Nevertheless, it would be against the IPR enforcement directive,[297] the 2014 TTBER,[298] the EC's case law and its Horizontal Guidelines, the thesis for which the obiter dicta just addressed peculiarities of the German patent system, without imposing EU-wide duties. Actually, it is advisable to both SEP-holders seeking injunctive relief, and standard-implementers raising the FRAND defense, to follow every step of *Huawei/ZTE*, even those outside the operative part, respectively not to breach Article 102 TFEU, or to prevent the issuance of injunctions.

Still on the wording, the ample recourse to general clauses, like *willingness,* or *recognized commercial practices in the field and in good*

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dominant position by seeking injunctive relief against Deutsche Telekom, and by excluding sales to certain distributors from its licenses with manufacturers, just to conclude its own licenses with such threaten distributor. See *St. Lawrence v Deutsche Telekom,* LG Mannheim, 2 O 103/14, March 10, 2015; and *St. Lawrence v Deutsche Telekom,* OLG Karlsruhe, 6 U 44/15, April 23, 2015.

[294] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para 67.

[295] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para 69.

[296] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para 68.

[297] Article 9(1)(a) forbid, on a provisional basis and subject, where appropriate, to a recurring penalty payment where provided for by national law, the continuation of the alleged infringements of that right, or to make such continuation subject to the lodging of guarantees intended to ensure the compensation of the right holder.

[298] Commission Regulation (EU) No 316/2014 of 21 March 2014 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to categories of technology transfer agreements (TTBER) OJ L93/17), Article 5: Excluded restrictions
1. The exemption provided for in Article 2 shall not apply to any of the following obligations contained in technology transfer agreements:
(b) any direct or indirect obligation on a party not to challenge the validity of intellectual property rights which the other party holds in the Union, without prejudice to the possibility, in the case of an exclusive licence, of providing for termination of the technology transfer agreement in the event that the licensee challenges the validity of any of the licensed technology rights.

faith, or *diligently,* or *delaying tactics*,[299] provides for flexibility in the alleged infringer's obligations set out by the Court, excluding an unique way of performance. The need for clarity and legal certainty disfavors the suppleness of these ample provisions, but contract law commonly uses them as relief valves, and courts are accustomed to their interpretation on a case-by-case basis.[300] Whereas the SEP-holder is constrained by its own flexible FRAND commitment, the CJEU, aware of the hold-out risk, imposed on the alleged infringer duties even though adjustable in scope. In practice courts can skip the tough FRAND licensing determination assuming the licensee's unwillingness from the breach of its requirements, as interpreted through such general clauses.[301]

Continuing on the phrasing of the ruling, superficially it may appear that paragraphs 53 to 55 confused a request for an injunction with a refusal to license. Despite the intricate language, it is not the case. The reference to third parties' legitimate expectations concerns not the unavailability of injunctions for FRAND-encumbered SEP, rather the availability of FRAND licenses for those SEPs.[302] The Court recognized that neither the FRAND commitment waives the right to seek injunctive relief, nor mandates Article 102 TFEU the SEP-holder to license at all costs, but the only obligation stemming from their conjunction is to license SEPs on FRAND terms. In case FRAND terms are disagreed, only the exceptional circumstances of the case impose cautions on both parties.

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[299] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, operative part.

[300] P. PICHT, "The ECJ rules on standard-essential patents: Thoughts and issues post-Huawei", *Max Planck Institute for Innovation and Competition Research Paper,* 2015, n. 15-11, p. 10 to 12. See also D. GERADIN, "The Meaning of 'Fair and Reasonable' in the Context of Third-Party Determination of FRAND Terms", *George Mason Law Review*, 2014, vol. 21, n. 4 p. 926.

[301] So preventing any harm to competition deriving from protracted litigation; for an early application of Huawei/ZTE in this sense, see Sisvel v Haier, footnote 288.

[302] ...[The FRAND commitment] *creates legitimate expectations on the part of third parties that the* [SEP holder] *will in fact grant licenses on such terms, a refusal by the* [SEP holder] *to grant a license on those terms, may in principle constitute an abuse* [pursuant to Article 102 TFEU]. Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para 53.

Lastly, differently from the AG,[303] the CJEU answered the referred question in the negative. In fact, it assumed that seeking injunctive relief by a dominant SEP-holder against willing licensees for FRAND-encumbered SEPs is abusive, but it excluded a breach of Article 102 TFEU *as long as* certain positively worded requirements are met. Even if the ruling concerned the potential abuse of dominance by the SEP-holder merely for requesting an injunction, the Court's reasoning seems directed to define the circumstances in which a request for an injunction should be granted; this could be due to the context of the FRAND defense, that is, rather than attaching liability to the SEP-holder's conduct, the German case-law provides the implementer with an antitrust defense against an injunction, otherwise to be awarded.[304]

Seen the contingent literal issues, next are assessed the proposed practical solutions.

Paragraph B Practical Remarks: Importance of Timing and SEPs Challenges

Significantly, the CJEU clarified that actions seeking damages and accounting do not bear the same requirements of actions for injunctions and recall of products;[305] accordingly, even before any opening of licensing negotiations, the SEP-holder can put pressure on the alleged infringer, without risks of antitrust exposure. However, since injunctions can be requested any time during the infringement proceedings, it is advisable for both parties to follow the *Huawei/ZTE*'s requirements, so that in the event injunctive relief is actually sought, the dominant SEP-holder can benefit from the antitrust safe harbor, while the alleged infringer can raise the FRAND defense.

Besides this clarification, looking at the core practical solutions given by the judgment, the two most debated issues are i) the behavioral

[303] Wathelet proposed the abuse to be affirmed where certain negatively worded requirements are met.

[304] N. PETIT, "Huaweï v ZTE: Judicial Conservatism at the Patent-Antitrust Intersection", *CPI Antitrust Chronicle,* October 2015, n. 2.

[305] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para 72 – 76 plus operative part.

duties imposed within the negotiating framework and ii) the approval of challenges to SEPs' validity, essentiality and infringement.

i) Negotiating Framework

The behavioral requirements laid down by the CJEU may seem naïve compared to the actual patent licensing negotiations. [306] *Huawei/ZTE* contemplated only unilateral offer and counteroffer, plus optional third party FRAND determination upon parties' agreement; although the CJEU contractually specified that a license offer and counteroffer must be written and FRAND specific, it limited their content to a royalty amount and calculus for just one SEP. True, the CJEU ignored common industry practices like patent bundling and pooling, reciprocal grant-backs, portfolio and cross licenses, but it did so correctly: first patent law is competence of Member States, and second the Court is not a lawmaker, but simply exercises its preliminary ruling jurisdiction, giving useful answers for the *a quo* proceedings,[307] guided by the principle of sincere cooperation pursuant to Article 4(3) TUE.

The timing of the licensing negotiations, previously considered by the AG as the *commercial window of opportunity*,[308] is a leitmotiv in the judgment. Preliminarily, offer and counteroffer must already be within the FRAND range, failing which the party's requirement is breached; then, the alleged infringer must avoid *delaying tactics* and respond promptly, [309] without holding-out; and last, the third party FRAND determination must occur *without delay*,[310] namely without a mandatory

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[306] Patent licensing negotiations are usually more complex than offer and counteroffer, being fact-sensitive and highly technical contracts. A number of factors is considered during the licensing negotiations, like the parties' business models, the rules on auditing and scope of the license, the quality and strength of individual patents both SEPs and non-SEPs, but also the overall quality of the patent portfolio.

[307] See CJEU Recommendation to national courts and tribunals in relation to the initiation of preliminary ruling proceedings [2012] OJ C 338/1, reaffirming the CJEU Information Note on references from national courts for a preliminary ruling [2009] OJ C 297/1, especially para. 7, 8 and 13.

[308] Case C-170/13 *Huawei/ZTE* Opinion of the AG Wathelet [2014] EU:C:2014:2391, para. 89.

[309] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 65-66 plus operative part.

[310] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 68.

negotiation period as envisaged by EC's *Google/Motorola* and *Samsung* decisions.

Facing a FRAND defense against the request of injunctive relief, established the fulfillment of the behavioral procedure, national patent courts must determine whether offer and counteroffer were FRAND, taking a position on a substantive point early in the proceedings, whose hurdle can be overcome through the appointment of an expert, which is common judicial habit.[311]

In the event one party's offer is found not to be FRAND, the courts' job is easy. In practice, the negative FRAND determination either determines a dominance abuse by the SEP-holder, who mistakenly believed its offer was FRAND, without any need to examine the counteroffer, or it permits injunctive relief against the standard-implementer, who rejected a FRAND offer but not responded tantamount. Conversely, whereas both offers are FRAND the outcome is uncertain. Because the CJEU considered FRAND as a range, an injunction should not be granted if the alleged infringer refused a FRAND offer but proposed a FRAND counter-offer, while the SEP-holder should not bear antitrust liability if it made a FRAND offer but rejected a FRAND counteroffer.[312] The stalemate between two opposed FRAND offers cannot be solved in the abstract by the CJEU, being up to national courts to sort out case-by-case whether or not issuing an injunction.[313]

Nonetheless, *Huawei/ZTE* brought additional guidance to the abovementioned task, in light of the costs that litigation produces, and of the importance of timing in SEP licenses. In fact, from the moment the

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[311] E.g. *Samsung v Apple* January 5, 2012, Specialized Division of Intellectual Property, now Specialized Court of Enterprises Tribunal of Milan. See G. MUSCOLO, "Recent developments in European and national patent law and case law", *EPO Official Journal,* Supplementary Publication, May 2015.

[312] K.W. WONG-ERWIN, J.D. WRIGHT, D.H. GINSBURG & B. H. KOBAYASHI, "Comment of the Global Antitrust Institute, George Mason University School of Law, on the National Development and Reform Commission's Anti-Monopoly Guide on Abuse of Intellectual Property Rights", *George Mason University, Law & Economics Research Paper Series*, November 2015, n. 15-52.

[313] See Annexes, Table 12 Outcomes of Huawei/ZTE.

counteroffer is rejected, the Court mandated the alleged infringer to provide appropriate security, and it admitted the possibility to agree to third party FRAND determination. In so doing patent courts are given useful criteria for the evaluation of the issuance of an injunction, namely the behavior of the alleged infringer in performing the security requirement, and the propensity of both parties in having the terms set, without delay, by an independent third party. On the contrary, challenging the SEPs in suit is explicitly deprived of any negative value in such assessment. Here we can see the balancing virtue of the judgment, which adopted the EC's approach of considering both parties' conduct in the granting of injunctive relief, but as Orange-Book, it safeguarded the SEP-holder's right securing its compensation, and excluding its impairment by the alleged infringer's unilateral request of having FRAND determined by a third party.[314]

Lastly, in the Court's reasoning, the agreement to have an independent third party determining FRAND licensing terms,[315] should preclude the issuance of injunctions, if *appropriate security* is guaranteed, *in accordance with recognized commercial practices in the field:* the general clause leaves scope for patent courts to value that appropriateness, not excluding in Germany will remain stable the Orange-Book doctrine, where it requires any potential licensee to secure an amount over its own estimate of a FRAND royalty, undoubtedly being the German recognized industry custom.

ii) Fostering Challenges to SEPs

The recognition by the CJEU of the alleged infringer's right to challenge validity essentiality or infringement of the SEPs in suit is significant, as it practically denies the Orange-Book unconditional godfather's offer and does not require FRAND licenses to include provisos of infringement.

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314 S. LAWRENCE, E. ROTONDO & P. TREACY, "IP and Competition: A Survey of Developments in the Past Year", *Journal of Competition Law & Practice*, December 17, 2015 p. 1-3.

315 SSOs and FRAND licenses for SEPs are based on consensus, depriving the parties' opportunity and incentive to voluntary bargain would practically deny the modus operandi of this regime.

Arguments against the Court's openness consider the industry practices of cross-portfolios licensing, whereby the cumulative royalties account for the reciprocal possibility that some patents may be invalid, and of portfolio rebalancing, whereby the license covers not a fixed stock, rather a flow of patents continuously removed and added by SEP-holders. According to this opinions there might be just a small risk that few invalid or inessential patents would impose significant costs on licensees, and indirectly to consumers.[316] Finding some patents to be invalid or inessential would arguably be consistent with the parties' informed expectations at the time of their negotiation, and would not justify reducing the portfolio royalty, as agreed and estimated for a bundled good.[317] Furthermore, termination and no-challenge clauses would be procompetitive inasmuch they prevent wasteful patent litigation, and given the finite period and repeated nature of license contracts, they would permit the parties to learn about, and to better assess the counterparty's portfolio. Along this reasoning, the Court gave licensees the possibility to strategically challenge the validity of individual SEPs, delaying the payment of due royalties until patent courts decide on the challenged SEPs, periling the SEP-holders ability to obtain prompt compensation for their critical technologies contributed to common standards, and reducing their incentives to participate in SSOs, at the expenses of dynamic competition.

The above mentioned competition policy argument is sound, yet it cannot comport the per se pro-competitiveness of no-challenge or termination clauses, as stated by Article 5(1)(b) of the 2014 TTBER,[318]

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[316] K.W. WONG-ERWIN, J.D. WRIGHT, D.H. GINSBURG & B. H. KOBAYASHI, "Comment of the Global Antitrust Institute, George Mason University School of Law, on the National Development and Reform Commission's Anti-Monopoly Guide on Abuse of Intellectual Property Rights", *George Mason University, Law & Economics Research Paper Series*, November 2015, n. 15-52.

[317] J. G. SIDAK, "Evading Portfolio Royalties for Standard-Essential Patents through Validity Challenges", *World Competition*, 2016, vol. 39.

[318] COMMISSION REGULATION (EU) No 316/2014 of 21 March 2014 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to categories of technology transfer agreements (Text with EEA relevance), Article 5 Excluded restrictions

and explained by paragraphs 134 to 140 of the EC's Guidelines on the application of the 2014 TTBER.

Huawei/ZTE, like the EC's 2014 decisions and AG Wathelet's opinion, confirmed *Windsurfing International* judgment, where it was considered in the public interest to eliminate any obstacle to economic activity, which may arise where a patent is granted in error, thus stifling rather than promoting innovation. Considered that SSOs do not check whether declared SEPs are valid or truly essential, that licensees are in the best position to conduct such determination, and that the right to access the court is recognized by Article 47 of the Charter, the CJEU allowed challenges to SEPs without the risk of standard implementers being automatically enjoined. Moreover, only if licensees are free to challenge the licensed patents, the strategic incentive of over-declaring SEPs to enhance the portfolio value can effectively be tackled.

The Court did not ban the no-challenge or termination clauses from SEPs licenses but instead, because of the hold-up risk, it excluded that injunctions could only be avoided by the alleged infringer settling and foregoing later challenges of the patents in suit;[319] settlement agreements providing for licenses comprehensive of a no-challenge or termination clause will be evaluated in light of Article 101 TFEU as any technology transfer contract,[320] but the probability they will be found anticompetitive is high whether they cover SEPs, which are necessary inputs for the licensee's production.[321]

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1. The exemption provided for in Article 2 shall not apply to any of the following obligations contained in technology transfer agreements:
(b) any direct or indirect obligation on a party not to challenge the validity of intellectual property rights which the other party holds in the Union, without prejudice to the possibility, in the case of an exclusive licence, of providing for termination of the technology transfer agreement in the event that the licensee challenges the validity of any of the licensed technology rights.

[319] K. KÜHN, "Justifying Antitrust Intervention in ICT Sector Patent Disputes: How to Address the Hold-Up Problem", *Competition Policy International,* Autumn 2013, vol. 9, n. 2, p. 100-115.

[320] Guidelines on the application of Article 101 TFEU to technology transfer agreements [2014] OJ C 89/3, para. 234 to 237.

[321] Guidelines on the application of Article 101 TFEU to technology transfer agreements [2014] OJ C 89/3, 242-243.

Overall the practical solutions provided by *Huawei/ZTE* seem robust and evenhanded. The judgment consistency with previous case law is evaluated below.

Paragraph C Jurisprudence Consistency

Since *Huawei/ZTE* defined an unusual negotiating framework, instead of a clear competition test where anti-competitive conducts or effects are identified, its consistency with previous case law has been criticized. Actually, the dispute *a quo* involved a SEP-holder seeking an injunction against an alleged infringer, so it could have been differently judged as a potential litigation abuse.[322] To the contrary the EU court of last resort did not even mention the GC's case law on vexatious litigation,[323] rather it endorsed the legal analysis proposed by the referring court. Although the CJEU can, exercising its preliminary ruling jurisdiction, reformulate the referred questions,[324] it did not, implicitly differentiating the relevant exceptional circumstances from the ones of vexatious litigation.

In the Court's view neither the jurisprudence on abusive refusal to supply had a prominent role, being just used to ground additional limits on the exercise of patent rights.[325] Indeed declared standard-essentiality and FRAND licensing commitments make *Huawei/ZTE* unique, justifying a new legal standard of abuse of dominance. Whereas the abusive refusal to supply reasoning was based on the interaction between Article 102 TFEU and IPRs, in *Huawei/ZTE* the Charter and general contractual clauses based the parties' conduct requirements, overcoming competition law paradigms like exclusionary or exploitative harms. Stating that

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[322] In this sense see: N. PETIT, "Injunctions for FRAND-Pledged SEPs: The Quest for an Appropriate Test of Abuse under Article 102 TFEU", *European Competition Journal December,* 2013, vol. 9, no. 3, p. 677-719.

[323] Namely *ITT Promedia*, and *Protégé International* cases.

[324] See for examples Case C-6/64 *Costa v ENEL* EU:C:1964:66*,* or Case C-44/79 *Hauer* EU:C:1979:290*,* or Case C-106/89 *Marleasing* EU:C:1990:395*,* or Case C-279/09 *DEB* EU:C:2010:811.

[325] See Annexes, Table 13 Article 102 TFEU Exceptional Circumstances.

… [T]*he Court must strike a balance between maintaining free competition… and the requirement to safeguard* [IPRs] *and*… [the] *right to effective judicial protection…*[326]

It may seem that the CJEU perceived a conflict of competition and IP law; in this sense, the recourse to constitutional balances could be conjectured to suggest that IPRs' protection is fixed and predetermined by fundamental rules like the Charter, but this supposition is contradicted by the very nature of IPRs, which are creatures of law shaped by the purpose they serve, and whose protection is ultimately subject to the courts' discretion. Because the Charter binds Member States, as much as EU competition law, the CJEU correctly, answering the referred questions, considered and balanced the competition and IP interests at stake, even stemming from high level constitutional statements.

In *Huawei/ZTE*, the Court convincingly relied on the overall context of voluntary standardization to depart from its precedents. Because the environment of SSOs, and the formation of standards would be thwarted both if patentees breach their FRAND commitment, and if users, who merely pretend to be willing licensees, are shielded by injunctive relief, hence the CJEU innovatively defined a negotiating framework, imposing duties on the two parties altogether. In this way the best possible innovation incentives for all standardization participants are ensured, namely FRAND remuneration to patentees and FRAND access to implementers.

The compatibility of the judgment's solutions with *de facto* standards deserves a final remark.

Paragraph D Inapplicability to *De Facto* Standards

The CJEU put much emphasis on the exceptional circumstances of the present case, namely the declared standard essentiality and the FRAND commitment given in consideration of such essential status, consequently it should be excluded that the good governance procedure

[326] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 42.

applies absent essentiality declarations and FRAND licensing commitments.

This strict interpretation could be refuted looking at the origins of *Huawei/ZTE*. Indeed, the referral was originated by the Düsseldorf Regional Court's belief that Orange-Book, which we recall concerned a *de facto* standard, imposed requirements for the FRAND defense stricter than the ones advocated by the EC; the referring court thus assumed that these requirements were applicable to FRAND encumbered SEPs. If Orange-Book, as applied to formal FRAND encumbered SEPs, gave rise to the preliminary ruling, the CJEU's judgment must then apply to the same cases of Orange-Book. However this argument is circular, for it could be equally true that the Court, establishing completely new exceptional circumstances, left *de facto* standards subject to the Orange-Book doctrine, while applying *Huawei/ZTE* to FRAND-encumbered SEPs.[327]

Speculating an extended application, it could also be contended that third parties' legitimate expectations exist beyond FRAND-encumbered SEPs. Because Article 101 TFEU, as explained by the EC's Horizontal Guidelines, allows cooperative standard setting in light of the beneficial effects of standards, yet subject to strict requirements like SEP disclosure and FRAND licensing commitment, it could be tempting to read Article 101 and 102 TFEU in conjunction submitting to *Huawei/ZTE*'s good governance procedure even dominant patentees holding SEP for *de facto* standards, apart of FRAND commitments.

To stick it to the text, it cannot be concluded that essential patents for *de facto* standard, not encumbered by a FRAND licensing commitment, bear the same requirements of FRAND-encumbered SEPs. As the AG noted, absent the FRAND commitment to constraint the SEP-holder's negotiating power, injunctions could be considered abusive pursuant to Article 102 only if the royalty demands were clearly

[327] A. HEINEMANN, "Standard-essential patents in standard setting organizations: competition law and the realization of licensing commitments", *Journal of Intellectual Property Law & Practice*, 2015, vol. 10, n. 12.

excessive.[328] Because the CJEU was asked to rule on the existence of a dominance abuse, rather than on the possession of a dominant position, it remains uncertain if standard-essentiality *per se* determines market dominance, and if such answer differs between *de facto* or *de consenso* standards.

Although absent in the ruling, arguments about the SEP-holder's dominant position must be presented.

[328] Case C-170/13 *Huawei/ZTE* Opinion of the AG Wathelet [2014] EU:C:2014:2391, para. 47 to 49.

Chapter 2 Assessment of the SEP-Holder's Dominant Position

For the referring court Huawei's dominant position was *not in dispute,*[329] therefore the CJEU left the dominance issue untouched. Certainly, the defined requirements apply to the extent that the SEP-holder has a dominant position,[330] but it remains open if market dominance automatically results from ownership of a FRAND-encumbered SEP. If that were the case, a relevant number of market participants would find themselves dominant, and whole standard-intense industries subject to the *Huawei/ZTE*'s requirements, on both sides of SEP-licenses.

Paragraph A Relevant Markets for the Licenses of SEPs

Defining the relevant market,[331] in its product and geographic dimensions, is fundamental for the appraisal of dominance, which in turn is a precondition for invoking Article 102 TFEU.[332] This notwithstanding, because the preliminary ruling jurisdiction only covers the interpretation or validity of a provision of EU law on the basis of the

[329] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 28.
[330] Although it must be noted that the CJEU's good governance procedure is desirable regardless of the existence of a dominant position, not depending the concept of fairness on any degree of market power.
[331] Which is the place where supply and demand for a specific product or service meet.
[332] Commission Notice on the definition of relevant market for the purposes of Community competition law [1997] OJ C 372/5, para. 2: *The objective of defining a market in both its product and geographic dimension is to identify those actual competitors of the undertakings involved that are capable of constraining those undertakings' behaviour and of preventing them from behaving independently of effective competitive pressure. It is from this perspective that the market definition makes it possible inter alia to calculate market shares that would convey meaningful information regarding market power for the purposes of assessing dominance or for the purposes of applying Article [102].*

referred facts, the CJEU simply noted that the existence of Huawei's dominant position was unquestioned.[333]

Market analysis in the context of SEPs and *de consenso* standards has been explicated by the EC in its decisions, yet extensively only in *Motorola*, which has not been appealed, so the CJEU's approach is still unrevealed. However, in *Huawei/ZTE* the Court took care of citing the *Hoffmann-La Roche* formula on the abuse of dominance,[334] showing that the exceptional circumstances of standard essentiality and FRAND licensing commitment do not change what objectively dominance is, and how it must be assessed.

i) SEP Product Market

The EC defines the product market as the set of

[A]*ll those products and/or services which are regarded as interchangeable or substitutable by the consumer, by reason of the products' characteristics, their prices and their intended use.*[335]

Preliminarily, SEPs are not end products but inputs, namely they are IPRs covering technologies that are necessary inputs of standard-compliant products;[336] accordingly, SEPs' relevant market is separated from the downstream market for the standard-compliant products.[337] Considering that SEPs are marketed through licenses, and that access to each SEP, if truly essential, is needed to implement the standard, the EC has, three times in a row, concluded that each single SEP formed a separate relevant product-market.[338] Starting from *Google/Motorol*a, the

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[333] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 28, 43-44.

[334] Case C-85/76, *Hoffmann La Roche,* EU:C:1979:36

[335] Commission Notice on the definition of relevant market for the purposes of Community competition law [1997] OJ C 372/5, para. 7. Substitutability considers product quality, consumers' use, and way of marketing.

[336] Guidelines on the application of Article 101 TFEU to technology transfer agreements [2014] OJ C 89/3, para. 20.

[337] Guidelines on the applicability of Article 101 TFEU to horizontal co-operation agreements [2011] OJ C 11/1, para. 116.

[338] Whether the EC had dealt with portfolio licensing of SEPs, the relevant product market would have been the one for the SEP-holder's portfolio of SEPs. In this sense

EC considered that *each SEP constitutes a separate relevant technology market on its own.*[339] Subsequently in *Samsung*[340] and in *Motorola*[341] the relevant product markets were the ones for the licensing of the technologies covered by each single SEP, as specified by the mobile telecommunication standards in question. The need for backward compatibility, and European-wide harmonized regulation brought the EC to exclude both demand and supply substitutability, respectively from newer generations of mobile standards, or comparable standards used elsewhere.

If, in response to a small but significant permanent increase in price of the SEP license, standard-implementers could easily switch to alternative technologies in a timely manner, without incurring significant additional costs or risks, then the alternative technologies would be included in the relevant technology market.[342] However, whereas the product-market of a normal patent comprises the competing technologies that design it around, standard-essentiality prevents *ab origine* competition from substitution. Without alternatives to a SEP, standard implementers must unavoidably obtain a license for each complement SEP, from every SEP-holder; therefore the relevant product-market is narrowed down just to encompass the licensing of any single SEP, or, in case multiple SEPs are held by the same owner, to the licensing of the SEPs-portfolio of each SEP-holder.[343]

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see D. GERADIN, "Pricing Abuses by Essential Patent Holders in a Standard-Setting Context: a View From Europe", *Antitrust Law Journal*, 2009, vol. 76, n. 1, p. 329-357.

[339] Case COMP/M.6381 *Google/Motorola Mobility* Commission Merger Clearance Decision of February 13, 2012 OJ C75 of 14 March 2012, para. 54 to 61.

[340] Standards from different generations need to be fully backward compatible; therefore, especially at the time of the first release of a new standard, the previous technologies are likely to be complementary rather than substitutes.

[341] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 181 to 213.

[342] Commission Notice on the definition of relevant market for the purposes of Community competition law [1997] OJ C 372/5, para. 15, 17 and 20.

[343] D. GERADIN, "Pricing Abuses by Essential Patent Holders in a Standard-Setting Context: a View From Europe", *Antitrust Law Journal*, 2009, vol. 76, n. 1, p. 329-357.

ii) SEP Geographic Market

For the EC, the relevant geographic market comprises

…[T]*he area in which the undertakings concerned are involved in the supply and demand of products or services, in which the conditions of competition are sufficiently homogeneous and which can be distinguished from neighbouring areas because the conditions of competition are appreciably different in those area.*[344]

When assessing the geographic dimension of a SEP's market, first it must be taken into account that, differently from normal products, but alike other IPRs, SEPs have no intrinsic physical constraints that spatially limit their marketing. Nevertheless, the territorial nature of the patent protection limits the SEP geographic market to the States where it has been issued. In practice SEP-holders file patent applications in every single national patent office they are interested, giving rise to the phenomenon of patent families, which refers to (the often global) protection of the same technological claims by patents of different nationalities. In *Samsung*[345] and *Motorola*[346] the geographic market was found at least EEA-wide, because of the vast diffusion of the standards in question, and of the regulatory regime therein harmonized. Also the fact that the SEPs in suit were European patents, as in *Huawei/ZTE*, confirmed such conclusion.

In such one-SEP, yet geographically wide market, notwithstanding the self-evident fact of monopolist SEP-ownership, the finding of a dominant position is not automatic.

Paragraph B Market Dominance

Dominance under EU competition law is

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[344] Commission Notice on the definition of relevant market for the purposes of Community competition law [1997] OJ C 372/5, para. 8.

[345] Case AT.39939 *Samsung Enforcement of UMTS standard essential patents,* Commission Commitment Decision of April 29, 2014, para. 41 to 44.

[346] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 214 to 220.

[A] *position of economic strength enjoyed by an undertaking, which enables it to prevent effective competition being maintained on a relevant market, by affording it the power to behave to an appreciable extent independently of its competitors, its customers and ultimately consumers*.[347]

In practice, the EC finds a dominance position whether a firm, for a significant period of time without facing sufficiently effective competitive constraints, can either profitably maintain prices above or output below competitive levels, either negatively influence innovation, quality or variety of goods or services.[348]

Since the 1968 *Parke Davis* preliminary ruling, it is considered that ownership of a patent does not *ipso facto* imply a dominant position, which is a factual circumstance.[349] The Horizontal Guidelines reiterated this assumption in the context of voluntary standardization and SEPs, namely

[T]*here is no presumption that holding or exercising* [SEPs] *equates to the possession or exercise of market power. The question of market power can only be assessed on a case-by-case basis.*

In its 2014 decisions, the EC found Samsung[350] and Motorola[351] to be, of course, the monopolist suppliers in the relevant markets for the licenses of their SEPs, but also dominant because substitutes to their SEPs were absent, the standards were widely adopted, and commercially indispensable to compete in the downstream market for standard-

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[347] Case C-27/76 *United Brands Company v Commission* EU:C:1978:22, para 65.

[348] Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings [2009] OJ C 45/7, para. 10-11.

[349] Case C-24/67 *Parke Davis* EU:C:1968:11, operative part 2. The assessment of the patentee's dominant position assumes validity of the patents in question.

[350] Case AT.39939 *Samsung Enforcement of UMTS standard essential patents,* Commission Commitment Decision of April 29, 2014, para 45-51.

[351] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 211.

compliant products, and industry players were locked-in to the standards. Even if SEP-holders should not be presumed per se dominant, the reasoning set out by the EC applies almost indistinctly to every SEP-holder.

In his Opinion on *Huawei/ZTE*, the AG agreed that national courts must establish dominance on a case-by-case basis, and he also excluded that such a finding could be based on hypothesis, given the special responsibility not to impair genuine competition, borne by undertakings for being dominant. Furthermore, Wathelet called for caution in assessing a SEP-holder's dominant position, which if presumed from the standard-essentiality, could always be rebutted providing specific and detailed evidence.[352]

Although the Court clearly did not consider issues of market definition and dominance, the ruling contains few obiter dicta on the issue, actually not very helpful. In fact, the CJEU on one side referred to the indispensability of having access to SEPs to compete in the relevant market,[353] suggesting that SEP-holders are generally in a dominant position until proven differently; on the other side it recalled the recognition of the referring court that Huawei and ZTE had equivalent bargaining power,[354] both being holders of numerous LTE SEPs,[355] transposing doubts about Huawei's presumed dominance, and reluctance to consider that in licensing disputes between two SEP-holders one party could be found to hold a dominant position.[356]

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[352] Case C-170/13 *Huawei/ZTE* Opinion of the AG Wathelet [2014] EU:C:2014:2391, para. 57-58.

[353] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 49-50.

[354] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 37.

[355] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 40.

[356] M. RATO, C. RAWNSLEY & M. ENGLISH, "Huawei: Establishing the Legal Standard for a FRAND Defense as a Basis for Resisting Requests for Injunctive Relief for Infringements of SEPs Under Competition Law", *CPI Antitrust Chronicle,* October 2015, n. 2.

Whether or not a SEP-holder is per se dominant remains uncertain,[357] being up to national courts to factually assess market-dominance balancing opposing factors:

i) Pro Dominance

A patentee's dominant position could be determined by the inclusion of its proprietary technology into a standard, whether:

1) It is commercially indispensable to comply with the standard to compete in the market, and

2) The industry is locked-in to the standard, namely it is unfeasible to switch from the standard to another technology.

Because SEPs are complementary inputs for standard-compliant products, each SEP-holder is an unavoidable trading partner, which can act as a gatekeeper, and restrict the access to the standard, irrespective of the existence of other SEPs, being *ipso facto* dominant. Only if a SEP could be bypassed by a substitute technology, the dominance claim would be economically problematic.

Furthermore, in favor of the existence of a dominant position stands the FRAND commitment, which is consideration for the acquisition of the standard-essentiality by a patent. Committing to FRAND licensing terms, the SEP-holder promises not to exploit its SEP through monopoly rent, and it creates third parties' legitimate expectations of accessing the SEP at FRAND terms. The dominant position relates to the economic dependence of standard implementers,[358] and abusing such market power obtained through the FRAND commitment would be anticompetitive. The additional hold-up rent that a patentee can extract from implementers, who have sunk standard-specific investments, and are therefore locked-in is not correlated to any additional innovative technological value of the patent, but derives from its standard essentiality. To maintain incentives to innovate, the premium value of a standard should not be appropriated by any single SEP-holder,

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[357] The dominance issue reflects the theoretical arguments in favor and against hold-up.

[358] C. MARÉCHAL, "Concurrence et propriété intellectuelle", IRPI – LITEC (2009), p. 42 to 44. Like in *Magill, t*he dominant position is therefore more than a monopoly, namely it is a legal monopoly unassailable by competitors.

being the result of the consumers' appreciation of a collective innovation effort.[359]

ii) Contra dominance

SEPs may not confer a dominant position to their owners whether:

1) The declared SEPs are not truly essential, so the patented feature may be circumvented without undermining the standard functionalities.

2) The patented feature is optional within the standard.

3) The standard is not commercially essential, inasmuch its market value or diffusion are low, or there are competing standards.

4) The SEP-holders are standard-implementers too, so that none of them can behave independently.

5) The SEP-holder is dominant regardless of the inclusion of its patent into the standard.

6) The FRAND commitment precludes SEP-holders from exercising market power because implementers can seek courts' determination of FRAND licensing terms.

7) SEP-holders can only enforce their rights through courts.

8) Countervailing market power excludes the SEP-holder's dominant position.

Accordingly, even if the relevant market for the licensing of a SEP is narrow defined, any SEP-holder can demonstrate that it is not dominant in order to claim injunctive relief irrespective of *Huawei/ZTE*'s good governance procedure.[360]

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[359] It should be noted that linking market-dominance to SEP-ownership can in the first place deter patentees to over declare SEPs to SSOs.

[360] In a decision of March 2015, the Düsseldorf Regional Court granted an injunction to France Brevets, a patent licensing company, without waiting the outcome of *Huawei/ZTE*, since it was established that the plaintiff did not have a dominant position and therefore was not obliged to license on FRAND terms its SEP, which was not market essential. See *France Brevets v HTC,* Landgericht Düsseldorf, file number 4bO140/1, March 26, 2015.

Paragraph C Anticompetitive Effects

Article 102 TFEU proscribes not a dominant position *per se*, but rather its abuse, namely conducts that by object tend to restrict competition to the detriment of consumers, or are capable of having such effect regardless of their success. In *Huawei/ZTE* it was briefly considered that, being the willing licensees and the SEP-holder at least potential competitors in the downstream market for standard-compliant products, the mere seeking of a SEP-based injunction would allow the dominant SEP-holder to prevent competition in such secondary market, which in turn would be reserved for the SEP-holder itself.[361] The courts' discretion in granting injunctive relief does not change the objective abusive nature of the dominant SEP-holder's conduct.[362] Furthermore, because injunctions do not empirically harm consumers' welfare,[363] the CJEU excluded their anti-competitiveness whether the alleged infringer fails to oppose the FRAND defense; in this very case any foreclosure resulting from an injunction would be pro-competitive.[364]

In addition to the exclusionary theory of harm outlined in *Huawei/ZTE*, seeking SEP-based injunctions could also have the exploitative effect of imposing supra FRAND disadvantageous licensing

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[361] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 52.

[362] Case C-40/09 *Astra Zeneca* EU:C:40/09, para 109 to 111, the fact that an act by an autonomous judicial body (i.e. a court cease and desist order) is a precondition for the likely anticompetitive effects to materialize or the fact that the desired result was not ultimately achieved, will not affect the abusive nature of the conduct.

[363] SEP-holders supplying technology inputs to downstream firms, benefit from a competitive market and have no incentive to foreclose it, further the ND part of FRAND binds it, because of first-move advantage SEP-holders may find it more profitable to offer attractive licensing terms to promote the adoption of the standard product, rather than extracting high royalties per unit, see K.W. WONG-ERWIN, J.D. WRIGHT, D.H. GINSBURG & B. H. KOBAYASHI, "Comment of the Global Antitrust Institute, George Mason University School of Law, on the National Development and Reform Commission's Anti-Monopoly Guide on Abuse of Intellectual Property Rights", *George Mason University, Law & Economics Research Paper Series*, November 2015, n. 15-52.

[364] Case C-209/10 *Post Danmark* EU:C:2012:172, in which the CJEU observes that not every exclusionary effect is necessarily detrimental to competition.

terms,[365] whereby the terrerom effect (fear from threat) of filing for an injunction ultimately depends on the likelihood of it being granted. Against this possibility, and confirming the 1986 *Windsurfing International* judgment, where it was found in the public interest the elimination of any obstacle to economic activity arising by a wrongly granted patent, the CJEU protected the alleged infringer's right to challenge the validity, essentiality or infringement of the SEP in suit. This approach is also in line with *Motorola*, where the EC considered that the potential cost of lost sales and damage to reputation of the implementer by having a product withdrawn from the market, would increase substantially the price that a licensee is willing to pay.[366]

Last, SEP-based injunctions, as a form of hold-up, can have, alike hold-out conducts, a negative impact on standard-setting, undermining confidence in SSOs, and depriving consumers of its benefits.[367] Generally, any action that leads to excessively high or low SEP-licensing terms hinders innovation. Readily available injunctive relief would prevent quick and large diffusion of standards, whereas under-compensation to SEP-holders would inhibit contributions of their critical technologies to standards, all to the detriment of dynamic competition.

Overall, *Huawei/ZTE* treated patent hold-up and hold-out as equally dangerous for competition, and, recognizing the double purpose of the FRAND commitment (namely ensuring fair remuneration to SEP-holders, while providing access on fair terms to implementers),[368] it imposed a good governance procedure that protects the competitive incentive of all stakeholders, ultimately benefiting end-consumers. Albeit differently from a usual effects-based approach, the competitive harm is assumed from the process of negotiation, whose very likely negative

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[365] J.G. SIDAK, "The Meaning of FRAND, Part II: Injunctions", *Journal of Competition Law & Economics,* 2015, vol. 11, n. 1, p. 201-269, at. p. 262.

[366] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 324.

[367] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 415

[368] K. KÜHN, "Justifying Antitrust Intervention in ICT Sector Patent Disputes: How to Address the Hold-Up Problem", *Competition Policy International,* Autumn 2013, vol. 9, n. 2, at p. 107-108.

impact on standardization obviates the need to assess the actual impact of the parties' behaviors.[369]

Paragraph D Objective Justifications

Although not textually provided, the CJEU and the EC allow exemptions from Article 102 TFEU, admitting that a dominant undertaking can objectively justify its conduct, otherwise abusive.[370] A dominant SEP-holder seeking an injunction, in breach of its duties under *Huawei/ZTE*, could avoid an infringement of Article 102 TFEU, proving that its conduct is objectively necessary, and that the exclusionary effects produced are offset by procompetitive ones, while at the same time effective competition is not precluded on the market.[371]

The EC's 2014 SEPs decisions valuated possible justifications advanced by the two dominant SEP-holders; in both of them, the EC recalling the settled case-law that limits in exceptional circumstances the exercise of IPRs in favor of free competition, excluded that the mere holding of a SEP can constitute an objective justification for the seeking or enforcing of a SEP-based injunction by a dominant SEP-holder against willing licensees.[372] The protection of the SEP-holder's commercial interests could instead objectively justify an injunction whether the SEP's FRAND remuneration is at risk, for example if the alleged infringer is in financial distress and unable to pay its debts, or its assets are located in an unreachable jurisdiction, or it is unwilling to

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[369] E. G. TOLÓN, "Licesing of Standard Essential Patents: Antitrust Intervention Is Not Big Enough A Fix", *Competition Policy International,* Autumn 2013, vol. 9, n. 2, p. 90-99.

[370] Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings [2009] OJ C 45/7, para. 28 to 31.

[371] See Case C-209/10 *Post Danmark* EU:C:2012:172, para. 40 to 42.

[372] Case AT.39939 *Samsung Enforcement of UMTS standard essential patents,* Commission Commitment Decision of April 29, 2014, para 66, and Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 423.

license not having responded to a FRAND offer either having rejected it or refusing to negotiate.[373]

The EC in its prohibition decision rejected a series of justifications advanced by Motorola, namely: acting in line with Orange-Book was not accepted since a finding of abuse under Article 102 TFEU is unrelated with compliance or not with other legal rules;[374] the avoidance of further litigation between the parties and the maintenance of licensors' incentives to innovate through the termination clause did not offset any anticompetitive effects and it was unnecessary;[375] portfolio licensing and avoidance of patent-by-patent litigation were possible otherwise than through the settlement agreement.[376] Even further, in *Samsung* it considered that the public interest to voluntary standardization opposes the seeking of injunctive relief against willing licensees, while it safeguards the accessibility of SEPs, promoting the proper functioning of standard setting.[377]

In conclusion, a SEP-holder even when found to be dominant, does not abuse its position when it seeks injunctive relief, whether it provides objective justifications to its conduct. Practically, if the dominant SEP-holder proves that the alleged infringer holds-out, periling the due FRAND remuneration, the abusive nature of its action for a prohibitory injunction is excluded. This intrinsic feature of the FRAND commitment, which regulates altogether access and compensation of SEPs, has been endorsed by *Huawei/ZTE*'s negotiating framework through the imposition of checks and balances on both parties.

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[373] Case AT.39939 *Samsung Enforcement of UMTS standard essential patents,* Commission Commitment Decision of April 29, 2014, para. 67.

[374] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 465 to 472.

[375] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 481 to 487.

[376] Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 488 to 491.

[377] Case AT.39939 *Samsung Enforcement of UMTS standard essential patents,* Commission Commitment Decision of April 29, 2014, para. 69.

Whereas the issue of the SEP-holder's dominant position can be addressed through usual competition law reasoning, FRAND terms remain somehow stranger and suspicious.

Chapter 3 Case-By-Case FRAND Terms Determination

The determination of FRAND licensing terms is the core issue in SEPs cases, as also recognized by the AG's opinion.[378] SSO's IPRs policies on purpose leave the meaning of FRAND open,[379] and they do not indicate how economic rents should be divided between SEP-holders and implementers, since incomplete information and antitrust risk of collusion surround SEPs licensing contracts until the standard is adopted and diffused. Generally, the inherent vagueness of FRAND works well, as standardization and industries where it is prevalent, like the ICT one, have experienced a significant growth over the past decade, showing that the parties' licensing negotiations successfully bridge the gaps of FRAND, ensuring altogether fair remuneration to SEP-holders and indiscriminate access to standard-implementers.

Nevertheless, given the rising numbers of standards, of patents declared essential to standards, and of industry players with different business models involved within the standardization process, either on the developing or implementing side, sometimes disputes over FRAND terms arise, and courts and arbitrators are then called to solve them. Whereas so far US courts have endeavored FRAND royalty calculations, their European colleagues have not, rather focusing on the parties' conduct during negotiations.[380] In this context the *Huawei/ZTE* ruling, far from delivering a mathematical formula to calculate FRAND royalties, clarified that FRAND is not a single point, rather it is a range, where each party can insert its offer and counteroffer. More guidance,

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[378] Case C-170/13 *Huawei/ZTE* Opinion of the AG Wathelet [2014] EU:C:2014:2391, preamble.

[379] At least so far this has been the custom. Something is changing. See infra Chapter 4.

[380] A. MOIR, D. WILSON, N. RUESINK-BROWN, J. FALCONE & A. ALCASABAS, "Recent guidance on SEP licensing in the US and EU", *Managing Intellectual Property*, September 14, 2015.

although desirable, was not asked by referred questions,[381] and accordingly the CJEU left national courts to find case-by-case their own methodologies in giving a numerical content to FRAND commitments.[382]

Paragraph A Necessity and Difficulty of Determining FRAND

Both the CJEU and the EC treat FRAND as a contractual issue, which can be best assessed by the parties' negotiations, and whether these fail, by courts and arbitrators as a first best alternative.[383] Accordingly, judicial setting of FRAND terms should reproduce the outcome of arm's length licensing bargaining between the parties. The occasions for courts to determine FRAND are several and intrinsically tough.

i) When is Judicial FRAND Determination Necessary

Pursuant to *Huawei/ZTE*'s negotiating framework, national patent courts facing a FRAND defense against a request for injunctive relief, must determine whether offer and counteroffer were FRAND, yet only after having established the fulfillment of the parties' behavioral requirements, such as the dominant SEP-holder's communication of the infringement to the standard implementer, and this latter's diligent

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[381] CJEU did not discuss hot to calculate a FRAND royalty since she wasn't asked; a FRAND royalty is to be determined in the light of factual evidence and under 267TFEU the CJEU does not make findings of fact.

[382] A methodology imposed by the CJEU from the top could result in a disproportionate regulation against Article 16 of the Charter, which protects the freedom to conduct a business. In this sense see M. LO BUE, "Huawei v ZTE: established case law and open issues after ECJ's judgment", unpublished manuscript, available at SSRN abstract n. 2656056.

[383] In a FRAND contract time is of the essence. Expeditious formation of a FRAND licensing agreement enables the implementer to commence the prompt production of standard-compliant devices. The delayed introduction of a new product is analogous to its having a virtual price so high as to drive demand for the product to zero. Failure to reach a FRAND agreement has the same effect on the public interest that an injunction has.

response and prompt counteroffer. In this determination courts are not bound by any hierarchy between a dominant SEP-holder's FRAND offer and an alleged infringer's FRAND counteroffer, considering that, on the one hand, the standard-implementer infringes the SEP, but, on the other hand, the SEP-holder's FRAND commitment induced such infringement. Determining whether an initial offer is within the FRAND range generally requires long and detailed economic analysis, which a Court can delegate to an independent expert. Evidence of comparable licenses is an extremely important indicator of what market participants consider to be FRAND, but unfortunately the licensing of IPRs encompass a multitude of variables rendering each license almost unique.[384]

Additionally, courts may determine FRAND licensing terms either in breach of contract actions brought by standard-implementers complaining about SEP-holders offering non-FRAND licensing terms, or voluntary brought by either party of a FRAND license contract, whereby judicial rate setting is agreed. In the first case the SEP-holder's FRAND commitment is enforced by a standard-implementer, who has *locus standi* as a third party intended beneficiary, identified by its membership to the SSO, or by the very SEP-holder's offer deemed not to be FRAND. The second case would occur whether the parties settle the SEP infringement dispute and agree to third party FRAND determination, as it currently going on between Motorola and Apple in front of the Mannheim District Court.[385]

Lastly, patent courts may calculate FRAND terms when awarding damages for the found infringement of a FRAND-encumbered SEP. Article 13 of the IPRs Enforcement Directive[386] ensures that all Member

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[384] D. GERADIN & M. RATO, "Can Standard-Setting lead to exploitative abuse? A dissonant view on patent hold-up, royalty stacking and the meaning of FRAND", *European Competition Journal*, June 2007, p. 155.

[385] Mannheim District Court asked the EC on the setting of FRAND licenses in Motorola v Apple, see Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014, para. 174.

[386] Article 13 Damages

1. Member States shall ensure that the competent judicial authorities, on application of the injured party, order the infringer who knowingly, or with reasonable grounds to

States provide for the enforcement of IPRs through the award of damages against infringers, who knowingly, or with reasonable grounds to know, engaged in the established infringement. Because standard-implementers determine the expected payoffs from either taking a FRAND license or infringing the SEP and paying damages, courts should set the amount of damages not to be less than the FRAND royalties, which would have been due but for the infringement.[387] If infringement-damages were capped at the amount of a FRAND license, users would have an incentive to infringe FRAND-encumbered SEPs (i.e. hold-out), while if they were disproportionate to the FRAND commitment, SEP-holders would systematically refuse to license (i.e. hold-up).[388]

Therefore, courts must determine FRAND terms when evaluating whether or not to issue an injunction, when setting the payable due FRAND license, and when awarding SEP infringement-damages. The absence of any precedent on this matter by European national patent

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know, engaged in an infringing activity, to pay the rightholder damages appropriate to the actual prejudice suffered by him/her as a result of the infringement.
When the judicial authorities set the damages: (a) they shall take into account all appropriate aspects, such as the negative economic consequences, including lost profits, which the injured party has suffered, any unfair profits made by the infringer and, in appropriate cases, elements other than economic factors, such as the moral prejudice caused to the rightholder by the infringement; or (b) as an alternative to (a), they may, in appropriate cases, set the damages as a lump sum on the basis of elements such as at least the amount of royalties or fees which would have been due if the infringer had requested authorisation to use the intellectual property right in question.
2. Where the infringer did not knowingly, or with reasonable grounds know, engage in infringing activity, Member States may lay down that the judicial authorities may order the recovery of profits or the payment of damages, which may be pre-established.

[387] J.G. SIDAK, "The Meaning of FRAND, Part II: Injunctions", *Journal of Competition Law & Economics*, 2015, vol. 11, n. 1, p. 237 to 247.

[388] H.J. HOVENKAMP, "Competition in Information Technologies: Standard-Essential Patents, Non-Practicing Entities and FRAND Bidding", *University of Iowa Legal Studies Research Paper*, November 2012, n. 12-32.

judges confirms the widespread belief that market forces can better assess FRAND terms.

ii) Why Is Determining FRAND Terms Difficult

Preliminarily, no stereotype FRAND commitment exists; in fact, SSOs' IPRs policies vary in the way they request members to commit to FRAND licensing terms, and therefore, as recognized in *Huawei/ZTE*, these must be determined *in accordance with the undertaking given to the standardization body*.[389]

Considered the relevant FRAND commitment, then courts must establish the value of the SEP in suit to price its license.[390] This is a obstacle because patents have no intrinsic value, but rather a market value, which is the outcome of the relevant stakeholders' negotiations, often financially identified in the patent's incremental value.[391] In addition, since the SEPs' value depends on the value of the other SEPs included into the standard, courts must also consider royalty-stacking issues.[392]

Besides the usual difficulty of pricing patents, courts face scarce information to determine FRAND terms too. Comparative evidence of FRAND licenses either totally lacks for an entirely new standard, whose SEPs have not been licensed, either is confidential.[393] SEP licenses are

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[389] Case C-170/13 *Huawei v ZTE*, EU:C:2015:477, para. 63.

[390] M. MARINIELLO, "Fair, Reasonable and Non-Discriminatory (FRAND) Terms: A Challenge for Competition Authorities", *Journal of Competition Law & Economics*, 2011, vol. 7, n. 3, p. 523-541.

[391] The value of a patent financially corresponds to its incremental value, namely the added profit or cost saving over the use of the next-best alternative; see A. LAYNE-FARRAR, A.J. PADILLA & R. SCHMALENSEE, "Pricing Patents for Licensing in Standard-Setting Organizations: Making Sense of FRAND Commitments", *Antitrust Law Journal*, 2007, vol. 74, n. 671.

[392] K.W. WONG-ERWIN, J.D. WRIGHT, D.H. GINSBURG & B. H. KOBAYASHI, "Comment of the Global Antitrust Institute, George Mason University School of Law, on the National Development and Reform Commission's Anti-Monopoly Guide on Abuse of Intellectual Property Rights", *George Mason University, Law & Economics Research Paper Series*, November 2015, n. 15-52.

[393] J. MARSHALL, "What Huawei will mean for IP owners", *Managing Intellectual Property,* April 2014.

usually secret and very complicated contracts, even inserted in broader commercial relations; each license is based on a variety of factual circumstances and interests, which precludes the comparison of licenses for the very same SEP between different parties. The payment of royalties is an optional term of licenses, since diverse means could equally provide consideration, like reciprocal licensing plus eventual balancing payments, or other forms of collaboration. Moreover, rarely parties license patent-by-patent, favoring instead portfolio-wide agreements covering both SEPs and non-SEPs, which save transaction costs, but exacerbate the contractual complexity. Not surprisingly, patent licensing litigation is normally dealt by arbitration, so the courts' experience is sporadic and fragmented.[394] This provokes a vicious circle, preventing courts to develop rigorous methodologies to determine FRAND terms, and in turn incentivizing the parties to settle.

Notwithstanding these difficulties, in the event one of the abovementioned circumstances occurs, courts must factually determine general FRAND terms, looking *inter alia* at the industry customs and at comparable licenses, while specific FRAND royalties considering the value of the SEP in question relatively to the standard-compliant product and to other SEPs, the importance of the standard and the dimension of its market, the negotiating parties' market shares, the strength of the SEP, the expected standard-compliant product life cycle, the risks of failed research attempts, and many other circumstantial factors.

European courts being silent, useful guidance on the determination of FRAND terms has been provided by the EC's Horizontal Guidelines.

[394] J.G. SIDAK, "The Meaning of FRAND, Part II: Injunctions", *Journal of Competition Law & Economics*, 2015, vol. 11, n. 1, at p. 227 to 230.

Paragraph B The European Commission Approach to Calculate FRAND Royalties

Economists, arguing both in favor and against patent hold-up, disagree on the appropriate method to calculate FRAND royalties,[395] yet they agree that fair and reasonable royalties should reflect the value of the patented invention, and that non-discriminatory royalties must treat similarly situated licensees in the same way. Between contrasting scholars, the EC recognized that the very purpose of FRAND commitments is to ensure access to SEPs, preventing SEP-holders to engage in patent hold-up, either by a straight refusal to license, or by

> [R]*equesting unfair or unreasonable fees (in other words excessive fees) after the industry has been locked-in to the standard or by charging discriminatory royalty fees.*[396]

Endorsing the hold-up theory, the EC then suggested a way for the calculus of a FRAND royalty:

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[395] Here is a non-exhaustive list in chronological order of appearance of the economics literature on the methodologies to calculate FRAND royalties: In 2005 Swanson and Baumol proposed an auction-like mechanism for the selection of the best technology to be included into the standard, which would preclude SEP-holders to raise requested royalty rates after the adoption of the standard. In 2007 Farrell *et alii* interpreted FRAND as the royalties that would have been voluntarily negotiated before standard-implementers became locked-in. The same year Layne-Farrar and others calculated FRAND royalties according to the SEP's marginal contribution to the total value of the standard. Always in 2007 Lemley and Shapiro advocated that SEP-holders should charge no more than the incremental value of their patent over the next best alternative, setting royalty rates considered their cumulative effect to prevent royalty-stacking. In 2009 Chapatte proposed to base FRAND royalty calculations on patent counting, irrespective of the value the patented technology contributes to the standard. Mariniello in 2011 excluded that FRAND royalty could be lower than those to which the SEP-holder would have committed ex ante. More recently, in 2013, Lemley and Shapiro recommended to resolve disputes over FRAND terms through a mandatory and binding-final offer arbitration. The same year Contreras supported to fix FRAND using certain features of patent-pools. Last but not least, Lerner and Tirole suggested SSOs to impose their members to commit to maximum price caps.

[396] Guidelines on the applicability of Article 101 TFEU to horizontal co-operation agreements [2011] OJ C 11/1, para. 287.

... In case of a dispute, the assessment of whether fees charged for access to IPR in the standard-setting context are unfair or unreasonable should be based on whether the fees bear a reasonable relationship to the economic value of the IPR. [...] there are various methods available to make this assessment. [...] it may be possible to compare the licensing fees charged by the company in question for the relevant patents in a competitive environment before the industry has been locked into the standard (ex ante) with those charged after the industry has been locked in (ex post). This assumes that the comparison can be made in a consistent and reliable manner.[397] (Emphasis added)

The EC endorses the so-called 'ex ante incremental value' rule, whereby a FRAND royalty should reflect the added value of the SEP over the next-best alternative available at the time the standard was defined. This amount corresponds to the maximum amount that a licensee would have been willing to pay facing up-front price competition from alternative technologies. Accordingly, whether prior to the adoption of the standard the patent in question was already critical, its FRAND licensing terms would still reflect such high value.

Since substituting two patents within a standard is not easy, and it would change the standard's performance and value along several different dimensions, alternatively the EC admitted the recourse to evidentiary methods such as

... [T]*o obtain an independent expert assessment of the objective centrality and essentiality to the standard at issue of the relevant IPR portfolio. [...] it may also be possible to refer to ex ante disclosures of licensing terms in the context of a specific standard-setting process. [...] The royalty rates charged for the same IPR in other comparable standards may also provide an indication for FRAND royalty rates. These guidelines do not seek to provide an exhaustive list of appropriate*

[397] Guidelines on the applicability of Article 101 TFEU to horizontal co-operation agreements [2011] OJ C 11/1, para 289.

methods to assess whether the royalty fees are excessive.[398] (Emphasis added).

Due to the peculiarities of licensing contracts, royalty rates can difficultly constitute reliable benchmarks; therefore, the appointment by the court of an independent expert, although costly and time-consuming, may be the most workable way, at least until SSOs specify what they mean for FRAND licensing terms, an eventuality envisaged by the EC, admitting the reference to licensing terms disclosed within SSOs before the adoption of the standard.

The Horizontal Guidelines, being soft law, do not bind SSOs, or holders of FRAND encumbered SEPs, or judges; nevertheless they could be significant for showing how the EC assesses competitive SEPs licenses when dealing with exploitative or discriminatory abuses by dominant SEP-holders.

Paragraph C Discriminatory and Excessive SEP Licenses

Because Article 102 TFEU also proscribes exploitative and discriminatory abuses, [399] a SEP-holder requesting unfair or discriminatory license terms could, in the same exceptional circumstances defined by the case law limiting the exercise of IPRs, be deemed to abuse its dominant position. Notwithstanding the ample spectrum of Article 102 TFEU, the EC has not yet concluded any investigation against SEP-holders for imposing unfair or discriminatory licensing terms. [400] Indeed the conceptual and practical difficulty of

[398] Guidelines on the applicability of Article 101 TFEU to horizontal co-operation agreements [2011] OJ C 11/1, para 290.

[399] 102(a) = directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions

[400] Case COMP/39247 *Qualcomm* Commission Press Release November 24, 2009 MEMO/09/516, and Case COMP/38636 *Rambus* Commission Commitment Decision. Qualcomm was investigated for abusing its dominant position by requesting excessive royalties, while Rambus for exploiting its dominant position, as in the absence of patent ambush it would not have been able to ask the royalty rates it then required. In

implementing a legal test for excessive or discriminatory prices is exacerbated when SEPs are at stake, lacking valuable benchmarks for price comparisons like costs of production, or substitute competing products.

Not repeating the market-dominance assessment, the competitive effects of the two conducts is briefly assessed below:

i) SEPs Licensing Discrimination

Generally price discrimination enables suppliers to increase their revenues, and price-sensitive consumers to be served when they otherwise would be priced out of the market if uniform pricing were mandated. Given the ICT industry practice of portfolio-cross licensing, whereby the size and value of portfolios vary considerably among SEP-holders, discrimination is prevalent in SEPs FRAND licenses, and it often serves procompetitive purposes. To maximize income from a SEP its holder may require higher royalties from lower sales volume standard-implementers, and offer lower royalties to a licensee that can offer valuable consideration in trade, such as reciprocal licensing or grant-backs. Discriminatory licensing also encourages innovation, allowing licensees with critical patent portfolios to negotiate better licenses from SEP-holder than licensees with no or less valuable patents. Any attempt to compel SEP-holders to offer licenses providing for identical royalty rates would prevent differential treatment based on objective differences between licensees, being discriminatory in itself, and introducing undue rigidity in SEPs FRAND licensing.

Although discriminatory refusals to license can be acceptable under Article 102 TFEU for the efficiencies they produce (e.g. an exclusive license ensures the licensee with a greater incentive to promote the licensed technology, to the detriment of other potential but refused licensees), the FRAND commitment permits to refuse only licenses below FRAND terms, consistently with its purpose of ensuring altogether FRAND access and consideration for the proprietary standardized technology.

Rambus the EC adopted an Article 9 regulation 1/2003 commitment decision, providing for a five-year cap on the royalty asked by Rambus.

Despite the potential pro-competitiveness of SEPs licensing discrimination, a distinction should be made whether the licensor also competes in the downstream market for standard-compliant products. Indeed, while pure innovators benefit from downstream competition, which increases upstream sales-based royalty earnings, and so have no incentive to discriminate between licensees,[401] to the contrary, vertically integrated SEP-holders might be keen to discriminate between competing-licensees, charging them a higher price than the one implicitly incurred for their own downstream operations.[402] Even if discriminatory licensing by vertical integrated SEP-holders can be anticompetitive, antitrust enforcement authorities encounter the obstacle of defining the 'price' charged by the SEP-holder to itself for the use of its own SEP.

ii) Unfair SEPs licenses

EU competition law considers a price to be unfair when it is found to be excessive,[403] namely unreasonably unrelated from the economic value of the product supplied.[404] In *United Brands* the CJEU identified a two-step test to find an excessive price, looking at

…w*hether the difference between the costs actually incurred and the price actually charged is excessive, and if the answer is affirmative,*

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[401] To the extent that fierce downstream competition does not shrink royalty revenues by depressing prices of standard-compliant products.

[402] Swanson & Baumol in 2005 suggested SEP-holders to license their SEPs at the cost found deducting from the price the SEP-holder charges customers for its standard-compliant product, the incremental cost to the SEP-holder of all other inputs used to produce the final product. The limit of this suggestion is that determining the incremental cost of a given input is hard, especially considered the nature of the innovation process involving large upfront investments in R&D and very low marginal costs at the production stage.

[403] It should be noted that paying excessively low prices to suppliers might constitute and abuse of dominance as well.

[404] D.S. EVANS & A.J. PADILLA, "Excessive Prices: Using Economics to Define Administrable Legal Rules", *Journal of Competition Law and Economics,* 2005, vol. 1, n. 1, p. 97 to 122.

whether a price has been imposed which is either unfair in itself or when compared to competing products.[405]

None of the benchmarks subsequently used by the EC in applying the United Brands test, fits in the task of ascertaining whether SEPs licensing fees are excessive:[406]

1) Cost-based methods, as recognized by the Horizontal Guidelines,[407] are ill-suited to be employed as benchmarks for SEPs, since it is hard to assess the costs attributable to the development of a particular licensed SEP, which is an intensive R&D trial and error process, even harder to apportion such cost when numerous SEPs are reciprocally or portfolio licensed.

2) Suitable comparable products to an SEP are almost impossible to identify, first because each SEP is by definition unique, and second because SEPs are complementary to implement a standard.

3) Price comparisons of SEPs licenses over different neighboring markets is prevented by the geographical scope of such markets, which is often EEA-wide or worldwide.

4) Comparisons of a SEP license over time present the intrinsic obstacle of the heterogeneity of the licensing instruments. Whether the SEP was already licensed as a normal patent before the adoption of the standard, it could hardly be compared to its ex post license, since the standard-essentiality and the FRAND obligation totally change the circumstances underlying its licensing. Whether the SEP has no licensing history, the proper benchmark to determine fairness would be a license agreed at the ex ante incremental value of the SEP over available price and technical alternatives, whose calculation is in itself an obstacle.

Without a reliable mechanism to determine whether a SEP license is unfair or discriminatory, and also considered that market-determined

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[405] Case C-27/76 *United Brands Company v Commission* EU:C:1978:22, para. 252.

[406] D. GERADIN & M. RATO, "Can Standard-Setting lead to exploitative abuse? A dissonant view on patent hold-up, royalty stacking and the meaning of FRAND", *European Competition Journal*, June 2007, p. 152.

[407] Guidelines on the applicability of Article 101 TFEU to horizontal co-operation agreements [2011] OJ C 11/1, para 289.

FRAND terms better balances the incentives of both innovation, permitting SEP-holders to exploit their SEPs, and of standardization, sharing the premium value of the standard among all stakeholders, it seems well founded the EC's reticence to prosecute exploitative and discriminatory abuses, yet propensity to sanction abusive behaviors susceptible to distort market-driven FRAND licensing negotiations.[408]

Differently from the European FRAND behavioral approach, US courts have already ventured FRAND royalty calculations.

Paragraph D The United States' Hypothetical Negotiation for Determining FRAND

Since the 1971 *Georgia-Pacific* judgment,[409] US courts use a non-hierarchical list of fifteen factors to calculate reasonable royalties as a minimum benchmark for patent-infringement damages, which simulates a hypothetical negotiation occurring just before the infringement, between a willing licensee and licensor both presumed aware of the validity and infringement of the patent. The amount payable by the prospective licensee, as of the date of the infringement, is considered to be no more than the expected additional profit or cost saving of using the patented technology instead of the next-best available non-infringing alternative (i.e. patent's incremental value). Since this amount is hard to quantify,[410] factors also include evidence, such as opinions of qualified experts or the importance of the patent for the parties' products, and comparisons, like the royalties received by the patentee for licensing the patents in suit or the utility and advantages of the patent over alternatives.

Eventually, courts have calculated FRAND royalties and damages

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[408] U. PETROVČIČ, "Patent Hold-Up and the Limits of Competition Law: A Trans-Atlantic Perspective", *Common Market Law Review,* 2013, vol. 50, p. 1363 to 1386.
[409] *Georgia-Pacific Corp. v U.S. Plywood Corp*., [1970] 318 US District Court for the Southern District of New York 1116, modified on appeal [1971] 446 US Court of Appeals for the Second Circuit 295.
[410] T. F. COTTER, "Comparative Law and Economics of Standard-Essential Patents and FRAND Royalties*"*, *Texas Intellectual Property Law Journal*, 2014, vol. 22, p. 311, at p. 357.

applying a modified version of the Georgia-Pacific factors, tailored to the specific facts of FRAND-encumbered SEPs. The relevant case law has been set in 2013 by two subsequent cases, the first involving *Microsoft v Motorola,* while the second *Innovatio IP Ventures*, a SEP-holder, against several standard-implementers.[411]

i) *Microsoft v Motorola*

In April 2013 for the first time a court calculated FRAND royalties, specifically to be paid by Microsoft for Motorola's portfolio of SEPs relating to the 802.11 Wi-Fi standard, promulgated by the IEEE, and H.264 video codification standard, promulgated by ITU.[412] The disputed rose because Motorola had asked Microsoft to pay a royalty of 2.25% of end user sales price for all of its standard-compliant products, then Microsoft claimed Motorola breached its FRAND licensing commitments given to IEEE and ITU by offering non-FRAND terms. To decide over Motorola's breach of contract, the federal court actually established FRAND royalty ranges and rates, simulating a hypothetical negotiation between the parties based on a FRAND-modified set of Georgia-Pacific factors. The court departed from the usual hypothetical negotiation setting its timing just before the standard was adopted, rather than before the infringement, to avoid lock-in implications, and not assuming SEPs' validity and infringement, these being still uncertain in the proceedings.

The court concluded that a FRAND royalty for a SEP should reflect the relative value of the patented technology contributed to the standard, and not the hold-up resulting from the inclusion into the standard; in so doing FRAND was linked to the ex-ante incremental value of the technology (i.e. value of the patented invention over the next-best alternative), determining the license fee the patentee could have obtained from a negotiation absent the standard, also considered the royalty stacking argument. Because of the difficulty of estimating the SEPs incremental values, the court allowed comparisons. In practice,

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[411] See Annexes, Table 14 Georgia-Pacific Original and FRAND Factors.

[412] *Microsoft Co v Motorola Inc* [2013] US District Court for the Western District of Washington C10-1823 JLR.

whereas Motorola's licenses with third parties for the SEPs in suit were not comparable because concluded in settlement agreements, covering both SEPs and non-SEPs plus expired patents, without specifically allocating royalties to the relevant SEPs, the court used the royalty rate of a patent pool of Wi-Fi essential patents as benchmark for undistorted negotiation. [413] Having established the appropriate FRAND royalty ranges, because Motorola's portfolios were found not to be very important for Microsoft's standard-compliant products, the FRAND royalty rates were set in the lower bound of the ranges.[414] The judgment was appealed, yet upheld on July 30, 2015.[415]

ii) Innovatio IP Ventures

The hypothetical negotiation used in *Microsoft v Motorola* was reaffirmed in October 2013 to determine a FRAND royalty for a portfolio of nineteen SEPs, again relating to the 802.11 Wi-Fi standard. The proceedings involved Innovatio, a SEP-holder, against several manufacturers of electronic devices implementing the Wi-Fi standard.[416] Before the hearing on patent validity, the parties agreed to evaluate the potential damages available to Innovatio if the manufacturers were subsequently found to have infringed the SEPs at issue. Given the SEPs were FRAND encumbered, the court determined the damages by assessing the appropriate FRAND royalty for Innovatio's portfolio.[417] Following the methodology of *Microsoft v Motorola*, it was first considered the technical weight of the patent portfolio for the standard,

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[413] M.A. MCCARTY, "Federal Court Sets RAND Rate for Portfolio of Standard-Essential Patents", *Intellectual Property & Technology Law Journal,* November 2013, Vol. 25, n. 11.

[414] Accordingly a royalty range was for the H.264 SEPs was set at 0.555-16.389 cents per unit and the rate was 0.555 cents per unit, and rate for 802.11 essential patent portfolio is 3.471 cents per unit, range is 0.8-19.5 cents per unit.

[415] *Microsoft Co v Motorola Inc* [2015] US Court of Appeals for the Ninth Circuit, No 14-35393.

[416] *In re Innovatio IP Ventures LLC* [2013] US District Court for the Northern District of Illinois MDL Docket No 3404 Case No 11C-9308.

[417] See J. G. SIDAK, "The Meaning of FRAND, Part I: Royalties", *Journal of Competition Law & Economics*, 2013, vol. 9, n. 4, at p. 987.

then the importance of the SEPs portfolio for the alleged infringing products, and last comparable licenses.[418]

While recognizing the need to reward the SEP-holder in order to maintain its incentive to innovate and contribute its patents to SSOs, the court again departed from the default Georgia-Pacific factors, placing the hypothetical negotiation at the time of the adoption of the standard to prevent hold-up and royalty stacking. Differently from *Microsoft v Motorola*, the court assumed the SEPs valid and infringed, congruently with the FRAND royalty determination for patent infringement damages.[419]

The plaintiff proposed to set the royalty base as the sale price of end products implementing Wi-Fi functionalities, yet the court relied on the smallest salable patent-practicing unit, namely the Wi-Fi chip. Instead of a classic ex ante incremental value method, the court adopted a top down approach whereby it found the portion of average profits on Wi-Fi chips sales available to pay SEPs royalties, and then apportioned them for Innovatio's portfolio.[420] Evidence of non-FRAND licenses, and of a rate offered by a patent pool of Wi-Fi SEPs was not considered comparable, being less important for the Wi-Fi standard than Innovatio's SEPs.

These two cases show how US courts are prone to determine FRAND royalties, being flexibly guided by the Georgia-Pacific factors, as adjusted to fit the peculiarities of FRAND-encumbered SEPs. Sooner or later European courts will eventually provide for equivalent judgments. In the meanwhile market participants, SSOs and the Unified Patent Court are already developing new approaches to FRAND-related issues.

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[418] See A. LAYNE-FARRAR & K.W. WONG-ERWIN, "Methodologies for Calculating FRAND Royalty Rates and Damages: An Analysis of Existing Case Law", *Law360,* October 2014, part 2.

[419] S. BARAZZA, "Further steps towards a uniform approach to RAND rates for standard-essential patents in the USA: the alternative 'top down' approach", *Journal of Intellectual Property Law & Practice,* 2014, Vol. 9, n. 1, p. 6.

[420] The FRAND royalty was set at $0.0956 per each Wi-Fi chip, as compared to the requested royalty of $16.17 per unit for tablet computers

Chapter 4 Industry and SSOs Developments

After *Huawei/ZTE*, the context of voluntary standardization still presents significant uncertainties; whereas the exclusionary risk of hold-up through injunctions appears circumscribed, the exact definition of FRAND licensing terms is far from settled. The costly and time-consuming resolution of SEPs licensing and infringement disputes can distort the markets for innovation and investment, either as hold-up or hold-out, to the detriment of consumers.[421] Moreover, without a European wide patent law, national courts can come to different conclusions, raising forum-shopping issues prejudicial to the Single Market. Tighter collaboration between SSOs and patent offices, like the partnerships between the European Patent Office (EPO) and prominent telecommunication SSOs, aim to ameliorate patent declaration procedures, reducing the incentives of SEPs challenges.[422] Arguably, SSOs could get involved amending their IPRs policies to provide ad hoc alternative dispute resolution (ADR) mechanisms to cheaply and quickly adjudicate FRAND disputes,[423] and to clarify what FRAND terms are, for example promoting ex-ante declaration of maximum licensing terms, or publicly disclosing FRAND reference terms as benchmarks. Obviously, the different interests of SSOs members[424] make revisions of

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[421] K. KÜHN, F. SCOTT-MORTON & H. SHELANSKI, "Standard Setting Organizations Can Help Solve the Standard Essential Patents Licensing Problem", *Competition Policy International,* March 2013, Special Issue.

[422] E. G. TOLÓN, "Licesing of Standard Essential Patents: Antitrust Intervention Is Not Big Enough A Fix", *Competition Policy International*, Autumn 2013, vol. 9, n. 2. p. 90-99.

[423] See M. A. LEMLEY & C. SHAPIRO, "A Simple Approach to Setting Reasonable Royalties for Standard-Essential Patents", *Berkeley Technology Law Journal*, 2013, vol. 28, p. 1135. Against this view, see J. G. SIDAK, "Mandating Final-Offer Arbitration of FRAND Royalties for Standard-Essential Patents", *Stanford Technology Law Review*, 2014, vol. 18, n. 1; or P. LAROUCHE, J. PADILLA & R. S. TAFFET, "Settling FRAND Disputes: Is Mandatory Arbitration a Reasonable and Nondiscriminatory Alternative?", *Journal of Competition Law and Economics*, 2014, vol. 10, p. 581.

[424] K. KÜHN, "Justifying Antitrust Intervention in ICT Sector Patent Disputes: How to Address the Hold-Up Problem", *Competition Policy International,* Autumn 2013, vol. 9, n. 2, at p. 109.

IPRs policies by consensus hardly feasible, yet there have been few notable exceptions.

Paragraph A Unified Patent Court

The 2013 International Agreement on the Unified Patent Court (hereinafter UPC) created a specialized patent court with exclusive jurisdiction over European patents and Unitary patents.[425] When the UPC will enter into force, upon ratification of at least thirteen EU Member States, or by the three Member States with most European patents (i.e. France, Germany and the United Kingdom), it will address many of the current problems afflicting the fragmented European patent litigation system. Nowadays in fact, a patent issued in several countries, or a European patent (i.e. a bundle of national patents), must be litigated or enforced in each State, with related high costs, risks of diverging decisions, and forum shopping strategies, like SEP-holders' preference for German injunctions. The UPC could solve several FRAND-related issues by developing consistent case law.

Regarding provisional measures, pursuant to Article 62(2) of the Agreement, the Court

... shall have the discretion to weigh up the interests of the parties and in particular to take into account the potential harm for either of the parties resulting from the granting or refusal of the injunction.

Because the Court can require the plaintiff to provide evidence in support of *fumus boni iuris* (i.e. proving to be the right holder, whose right is being, or is going to be infringed), and *periculum in mora* (i.e. demonstrating circumstances likely to endanger the recovery of damages), provisional injunctions based on FRAND-encumbered SEPs

[425] The UPC comprises a Court of First Instance, with a central division seated in Paris and two specialized sections in London and Munich, plus several local and regional divisions in the Contracting Member States, and a Court of Appeal located in Luxembourg. The UPC can request preliminary rulings to the CJEU whenever a question of UE law requires interpretation. Neither the UPC nor the Unitary patents are into force yet.

are likely to be granted only when it is ascertained that the alleged infringer is not willing, namely when it is holding-out, in line with *Huawei/ZTE.*[426]

About infringement damages, they are awardable only against infringers *who knowingly, or with reasonable grounds to know, engaged in a patent infringing activity*; this condition matches the underlying rationale of the SEP-holder's duty to alert the alleged infringer, given the amounts of SEPs included in standards. The sum of damages, without being punitive, is related to the *harm actually suffered* by the patentee, and not to favor the infringer it should be

[…] *at least the amount of the royalties or fees which would have been due if the infringer had requested authorisation to use the patent in question.*[427]

Moreover, to determine damages the UPC shall consider, *inter alia*, a*ny unfair profits made by the infringer*, which could be interpreted as the added profit or cost saving allowed by the infringement over the use of the next-best alternative, namely the patent's incremental value, which in case of FRAND-encumbered SEPs would be set before the adoption of the standard (i.e. ex ante incremental value).

Far from being next,[428] the entry into force of the UPC is probably the most desirable solution to FRAND-related issues for both European industry participants and consumers. In the meantime, remarkable improvements have already occurred within SSOs.

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[426] Article 62(4) of the UPC Agreement.

[427] Article 68 of the UPC Agreement.

[428] When writing 9 Member States ratified the Agreement, including France. (March 2, 2016). See state of ratification at https://www.consilium.europa.eu/en/documents-publications/agreements-conventions/agreement/?aid=2013001

Paragraph B Cooperation between SSOs and the European Patent Office

The European Patent Office (EPO), which issues European patents, and will grant Unitary patents when into force, has in place cooperation agreements with major SSOs. Indeed, in 2003 EPO became a member of ETSI, and in 2009 they have strengthened their relationship through a Memorandum of Understanding (MoU); always in 2009 another MoU was agreed by EPO and IEEE, then renewed in 2013; cooperation with ITU started in 2011, and with IEC in 2013.[429]

These agreements mainly provide for information sharing, linking patents and standards databases, and improving their transparency.[430] On the one hand, EPO can access the SSOs' working groups' documentations, and whether a new technology is therein disclosed it counts as prior art when examining patent applications.[431] On the other hand, SSOs can more easily establish whether a technology is patented or not, to decide its inclusion into the standard.[432] The comprehensive integration of standards' documentation in the searchable prior-art permits to better assess the novelty and inventiveness of patent applications, which enhances the quality and legal certainty of granted patents, and in turn helps to save litigation costs.[433]

Already ameliorating SSOs' disclosure mechanisms, the next step will be facilitating the licensing of FRAND-encumbered SEPs. In this direction, upon entry into force of the Unitary patent, the EPO will also register patentee's statements of willingness to license, including, when

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[429] EPO Press Release, "EPO and IEC agree to cooperate on standards and patents", April 17, 2013, available at

[430] EPO Press Release, *"ETSI and European Patent Office announce new collaboration",* November 24, 2009, available at

[431] In this sense EPO is more interested in early drafts than final resulting standards. See M. GOUDELIS & G. OWENS, "Patent offices and SDOs cooperation development", presentation at the *17th Global Standard Collaboration*, May 13 – 16, 2013, Jeju (South Korea).

[432] B. BATTISTELLI, President of the EPO, "Patents and standards can work together", *Blog EPO*, May 10, 2011, available at

[433] B. BATTISTELLI, President of the EPO, "Patents and standards: a challenging task for patent offices", *Blog EPO*, April 7, 2014, available at

applicable, their licensing commitments given to SSOs,[434] further incentivized by a reduction of patent renewal fees.[435]

After bilateral approaches to ease the standardization process, it is interesting to analyze how two important US based SSOs, namely VITA, defining standards for the architecture of certain computer hardware plugs, and IEEE, governing Wi-Fi standards, have fundamentally revised their IPRs policies to clarify the definition of FRAND licensing terms.

Paragraph C Attempts by SSOs to Specify FRAND Terms

The first SSO to directly address FRAND licensing issues was i) VITA,[436] more recently followed by ii) IEEE.

i) VITA Mandatory Disclosure System

In 2007 VITA changed its IPRs policy from a voluntary system to a mandatory system of both disclosure and licensing rules.[437] In practice, members within each working group are required to disclose potentially essential patents and patent applications,[438] and to declare the maximum royalty rates (either in dollars, or as a percentage of the sales price), and

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[434] Regulation (EU) No 1257/2012 of the European Parliament and of the Council of 17 December 2012 implementing enhanced cooperation in the area of the creation of unitary patent protection OJ L361/1, Articles 8 and 9(1)(c).

[435] Regulation (EU) No 1257/2012 of the European Parliament and of the Council of 17 December 2012 implementing enhanced cooperation in the area of the creation of unitary patent protection OJ L361/1. Pursuant to clause 15 of the preamble, whether an Unitary patentee files a statement to EPO that it is prepared to grant licenses in return for appropriate consideration, it should benefit from a reduction of renewal fees. Available at

[436] VITA stands for VME (Versabus Module Eurocard) International Trade Association.

[437] VITA News Release, "VITA Standards Organization Approves Changes on Disclosure and Licensing of Patents", January 23, 2007, available at

[438] VITA Standards Organization Policies and Procedures, Rule 10.2 Disclosure of patents. (Sept 1, 2015 Revision 2.8), available at

most restrictive licensing terms they will charge, in case their technology is selected.[439]

Whether the member does not specify non-royalty terms, ipso facto certain provisions of its licensing contracts are limited, such as grant-backs, reciprocal licenses, or no challenge clauses.[440] Failure to disclose a known SEP, or failure to declare most restrictive licensing terms leads to a royalty free license of the essential claims of the undisclosed patent.[441] Moreover, members agree to binding arbitration by a panel drawn from the VITA Board of Directors, to resolve any disputes over applications of the patent policy.[442] Finally, VITA explicitly prohibits negotiations and discussions of specific licensing terms among working group members, or with third parties.[443]

Thanks to the above mentioned IPRs policy, VITA's working groups can set standards evaluating competing technologies on their quality and price merits altogether.[444] Notwithstanding that price disclosures might present risks of anticompetitive price-fixing, the Antitrust Division of the US Department of Justice (DoJ), at the time of the adoption of the changes, issued a positive Business Review Letter

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[439] VITA Standards Organization Policies and Procedures, Rule 10.3 Disclosure of FRAND license. (Sept 1, 2015 Revision 2.8)

[440] VITA Standards Organization Policies and Procedures, Rule 10.3.2 Declaration. (Sept 1, 2015 Revision 2.8)

[441] VITA Standards Organization Policies and Procedures, Rule 10.4 Effect of Failure to Disclose Patents or License Terms. (Sept 1, 2015 Revision 2.8) available at

[442] VITA Standards Organization Policies and Procedures, Rule 10.5 Arbitration Procedure. (Sept 1, 2015 Revision 2.8) available at

[443] VITA Standards Organization Policies and Procedures, Rule 10.3.4. Negotiation of License (Sept 1, 2015 Revision 2.8) available at
See also G. PIESIEWICZ & R. SCHELLINGERHOUT, "Intellectual property rights in standard-setting from a competition law perspective", *Competition Policy Newsletter,* 2007, n. 3, p. 38.

[444] J.E. DANIEL, "New Developments in Standard Setting and Patent Licensing: Trying to Make RAND Terms More Reasonable*", Kramer Leving Intellectual Property Alert*, November 2006.

excluding any likely harm to competition;[445] Officers of the EC DG Competition in their private capacity made equal appreciations.[446]

ii) IEEE's Limitations to Injunctions and FRAND Terms

To limit hold-up and to add clarity to licensing agreements, IEEE first amended its IPRs policy in 2007, giving SEP-holders the option to publicly disclose and commit, through Letters of Assurance (forth on LoA), to the most restrictive terms sought for their SEPs licenses. Because of the voluntary nature of the ex ante maximum terms commitments, members opted out, and so IEEE amended again its policy in February 2015, this time directly clarifying what it means for FRAND terms.[447]

Peremptorily, and more strictly than *Huawei/ZTE*, now IEEE imposes to any SEP-holder submitting a LoA to waive its right to seek injunctive relief, except if the licensee does not participate, or fails to comply with the outcome of litigation and resultant third-party determination of a FRAND royalty.[448] The parties' right to arbitrate, and the SEP-holder's right to seek damages for the FRAND-encumbered SEPs are not restricted, in accordance with *Huawei/ZTE*. However, patentees can decline to submit a LoA, but IEEE considers it when deciding to include the relative technology into the standard.[449]

Moreover, the amended policy defines a FRAND rate as the appropriate compensation to the SEP-holder for the practice of a SEP by

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[445] Letter from Thomas O. Barnett, Assistant Attorney General, US Department of Justice, to Robert A. Skitol, legal counsel for VITA [2006].

[446] See C.V. MADERO & N. BANASEVIC, "Standards and Market Power", CPI 5 Antitrust Chronicle, 2008, vol. 5, n. 1, p. 4 to 6. Since 2011, the Horizontal Guidelines at para. 299 explicitly exclude the per se anti-competitiveness of ex ante disclosures of most restrictive licensing terms.

[447] IEEE uses RAND, for internal coherence this paper still makes reference to FRAND.

[448] Basically injunctions are limited to established infringements; see W. DIAZ & R. LESKE, "DOJ Issues Business Review Letter Pertaining to SSO Policy on Standard-Essential Patents and RAND Commitments", *Intellectual Property & Technology Law Journal,* May 2015, vol. 27, n. 5, p. 28-30.

[449] IEEE-SA Standards Board Bylaws, Rule 6.2 Policy. (Approved by the IEEE-SA Board of Governors; December 2015).

any standard-compliant product,[450] excluding the value determined by the inclusion of the patented technology into the standard (i.e. ex ante incremental value). Relevant factors for the calculation of a FRAND rate comprise, *inter alia*, the value of the technology covered by the SEP and contributed to the functionality of the smallest standard-compliant saleable unit, apportioned considering the value contributed by all other SEPs (i.e. accounting for royalty stacking). Reference to comparable licenses is allowed only if negotiated under similar circumstances, without threat of injunctions.[451]

SEP-holders can require reciprocal grant-backs only for SEPs of the same standard, whereby the terms of the cross-license would depend on the relative value of the technologies being licensed. However, cross-licenses remain freely negotiable by the parties voluntarily.[452]

These changes have been welcomed as much as criticized. Supporters argue their benefits for innovation, preventing companies from seeking excessive royalties,[453] while detractors counter-argue their potential of lowering the leverage of SEP-holders, undermining their property rights, and potentially limiting innovation by reducing participation in standards and SSOs.[454] The Antitrust Division of the US

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[450] Therefore regardless of the level of the production chain; the new IEEE's FRAND licensing terms requirement prevents SEP-holders to license only manufacturers of end-products rather than component or sub-assembly intermediaries.

[451] IEEE-SA Standards Board Bylaws, Rule 6.1 Definitions. (Approved by the IEEE-SA Board of Governors; December 2015). Available at
This may be difficult to implement in practice, since many licenses are negotiated under actual or expected litigation, leaving very few clean license agreements for comparisons. See D. SUNDARARAMAN, "Inside the IEEE's Important Changes To Patent Policy"*, Law 360*, April 3, 2015. Available at

[452] IEEE-SA Standards Board Bylaws, Rule 6.2 Policy (Approved by the IEEE-SA Board of Governors; December 2015). Available at

[453] In support of the changes see COMPARATIVE PATENT REMEDIES, February 2 2015.

[454] See D. CROUCH, "Battle over IP Rights could hold back next-generation technology", *The Financial Times*, June 11, 2015; or J.G. SIDAK, *"The Meaning of FRAND, Part II: Injunctions", Journal of Competition Law & Economics,* 2015, vol. 11, n. 1, at p. 202 to 205; and J.G. SIDAK, "The Antitrust Division's Devaluation of

DoJ, through a Business Review Letter, has appreciated the changes recognizing their consistency with recent US case law on the determination of FRAND terms, and stating that they potentially advantage competition and consumers by facilitating licensing negotiations, mitigating hold-up and royalty stacking.[455]

Only the market can assess the effects of IEEE and VITA's policy changes on FRAND-encumbered SEPs licenses, and on SSOs participation; if successful other SSOs might follow, otherwise they will be a failed experiment.[456]

The last trends to be seen regarding the standardization context are spontaneous declarations by SEP-holders of using their patent-portfolios only for defensive purposes, and the creation of cross-industry associations with the purpose to alleviate FRAND-related licensing issues.

Paragraph D Industry's Fair Play

Increasingly, ICT firms voluntary declare not to assert their patent-portfolio offensively, but only holding it to fire back in the event someone suits them.[457] Sometimes unilateral pledges are made to influence antitrust investigations, as positively IPCom in 2009[458] and Google in 2012 did;[459] alternatively they induce the market to adopt the pledger's technology, or they are aimed to improve public relations, for

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Standard-Essential Patents", The Georgetown Law Journal Online, 2015, vol. 104, p. 48.

[455] Letter from Renata B. Hesse, Acting Assistant Attorney General, US Department of Justice, to Micheal A. Lindsay, legal counsel for IEEE [2015].

[456] J.L. CONTRERAS, *IEEE Amends its Patent (FRAND) Policy,* Patently-O, Guest Post, February 9, 2015. Available at

[457] Apple's letter to ETSI, November 11, 2011 available at http://www.scribd.com/doc/80899178/11-11-11-Apple-Letter-to-ETSI-on-FRAND Or Microsoft press release, February 8, 2012, available at http://www.microsoft.com/en-us/legal/intellectualproperty/IPLicensing/ip2.aspx

[458] *IPCom case*, Commission Press Release MEMO/09/549, December 10, 2009, available at http://europa.eu/rapid/press-release_MEMO-09-549_en.htm

[459] Google's letter to IEEE, February 8, 2012, available at http://www.scribd.com/doc/80976133/12-02-08-Google-to-IEEE-on-MMI-Patents

example excluding the transfer of patent-portfolios to PAEs.[460] Whether the statements are not backed up by actual FRAND commitments, their reliability is doubtful, yet they signal how fair play awareness is rising in the market, apart of voluntary standardization.[461]

Always in the direction of a FRAND polite economy, the emergence of the Internet of Things (IoT) is pushing companies across different industries to a newer level of cooperation, different from SSOs inasmuch it is aimed not at setting standards, but rather at identifying issues, potential solutions and best practices for the diffusion of existing standards to previously unrelated fields.[462] *Consortia* and alliances currently working on IoT interoperability, all propose licensing models of FRAND terms by default, and even zero-royalty (i.e. FRAND-Z)[463] or royalty-free (FRAND-RF)[464] licenses.[465]

Lastly, in November 2015, a variegated group of companies, comprising *inter alia* Lenovo, Dell, Cisco, HP, but also BMW, Volkswagen, and even small and medium enterprises, established an association named Fair Standards Alliance (FSA), whose aim is to promote the licensing of SEPs on FRAND terms. The members published a position paper illustrating the key principles of FSA's action, whereby they advocate for a clearer meaning of FRAND, namely a license for a SEP should be available at any point of the value chain where the standard is implemented, and FRAND terms should be

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460 Yahoo's statement against patent trolls, available at http://judiciary.house.gov/_files/hearings/113th/10292013/Kramer%20Testimony.pdf Cisco at http://www.forbes.com/sites/ciocentral/2013/10/20/good-news-for-the-innovation-economy-the-tides-turning-againt-patent-trolls/ - 594a6d906254

461 J. L. CONTRERAS, "Patent Pledges", *Arizona State Law Journal*, December 28, 2015, vol. 47, n. 3, p. 543 to 608.

462 N. ZINGALES, "Of Coffee Pods, Videogames, and Missed Interoperability: Reflections for EU Governance of The Internet of Things*", TILEC Discussion Paper,* December 2015, n 26, available at

463 Open Interconnect Consortium (OIC) launched in July 2014 and gathering Intel, Broadcom, Samsung, GE, Asus, Honeywell and many others.

464 Threat Group created in 2014 *inter alia* by Google, Samsung and Silicon Labs.

465 S. LYNN SHARRON & N.A. TUCKETT, "The Internet of Things: Interoperability, Industry Standards & Related IP Licensing Approaches", *SociallyAware Blog,* February 2, 2016.

transparent to other companies implementing the same standards. Furthermore, in FSA's view, a FRAND royalty should correspond to the ex ante incremental value of the invention, based on the smallest saleable unit and also apportioned to consider royalty stacking.[466]

Because hold-up and royalty stacking could prevent the advent of the IoT, whereby products of all sorts interoperate thanks to ICT standards, companies both within SSOs and outside are pushing for more effective FRAND licensing, confident that it is the way forward.[467]

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466 FAIR STANDARDS ALLIANCE, "Fair Standards Alliance An Introduction", November 12, 2015, available at

467 MCKINSEY GLOBAL INSTITUTE, "The Internet of Things: Mapping the Value Beyond the Hype", Executive Summary, June 2015.

Conclusion

ICT standardization is becoming fundamental in modern life, and it is expected to play an even larger role with the advent of the IoT. As the economic importance of standards is growing, so it is the effort lying at their development. Indeed, market players through SSOs intensively cooperate to set standards, which will shape the future waves of innovation. As long as the standardization process is open, transparent and voluntary,[468] antitrust enforcement authorities have no need to intervene. Interestingly, so far both the EC and its US equivalent have adopted a permissive approach even in presence of price-fixing alarms, like the disclosure of most restrictive licensing terms within SSOs, considered the positive economic effects of standardization.[469]

Competitive apprehensions have instead arisen for unilateral behaviors of SSOs' members; in fact, when standards cover proprietary technology, often a precondition for disruptive technological innovation, they can add negotiating leverage on the already existent legal monopoly of patentees. Since patents included into standards are, in theory, essential to compete in the standard-compliant market, standard-implementers are obliged to take a license for each SEP, from all SEP-owners; these latters, as unavoidable trading partners for the standard-essentiality of their patents, can hold-up licensees, imposing them unacceptable terms, also supported by the threat of injunctions.

Industry participants, aware of the hold-up risk, yet generally uncertain whether they will be licensors or licensees, have equipped SSOs with IPRs policies, governing the inclusion of patented technologies into standards, and subsequently directing the licenses of such technologies to their widest diffusion. To this effect, SSOs variably provide for disclosure and licensing rules, imposing their members to

[468] Guidelines on the applicability of Article 101 TFEU to horizontal co-operation agreements [2011] OJ C 11/1, para. 280.

[469] Guidelines on the applicability of Article 101 TFEU to horizontal co-operation agreements [2011] OJ C 11/1, para. 299. The IPRs policies of VITA and of IEEE are the practical examples of this gracious scrutiny by antitrust authorities.

declare potentially standard-essential patents, or even patent applications, and to license them at FRAND terms, if then included into the standard.

The vague FRAND commitment is the *conditio sine qua non* for the economic viability of standard-setting: on the one hand, without FRAND consideration SEP-holders would not have the incentive to contribute their critical technologies to standards; on the other, without FRAND access implementers would not incur standard-specific investments. Usually, parties agree on FRAND licensing terms, benefitting standardization and in turn consumers; however, if the opposed individual interests of SEP-holders and standard-implementers prevail, FRAND disputes arise. SEPs cases are unique since the exclusive right patentees hold, over whether and how to license their SEPs, is constrained by the FRAND commitment; thus reflecting the recurrent intersection of IP and antitrust in which competition can, in exceptional circumstances, limit the exercise of IPRs.

German courts, forum-shopped by patentees for their bifurcated patent enforcement system and readiness to grant preliminary injunctions, have originally faced the FRAND defense, namely a competition law claim of abuse of dominance against the seeking of SEP-based injunctions. Balancing the SEP-holders' interest to remuneration, and the one of standard-implementers to access the proprietary technology, the German Federal Supreme Court, imposed a heavy threshold for the FRAND defense to overcome the issuance of injunctive relief. Mainly afraid of hold-out, that is potential licensees periling the SEP-holder's innovative reward, the BGH in the 2009 Orange-Book judgment,[470] found a dominant SEP-holder to abuse its position only if it refused a license on such favorable terms just unlawfully rejectable, plus if the infringer already behaved as licensee.

Orange-Book, blatantly subjecting competition law to IP law, was subsequently disavowed by the EC, which repeatedly showed its view over the availability of injunctions based on FRAND-encumbered SEPs, since its 2011 Horizontal Guidelines,[471] then 2012 *Google/Motorola*

[470] *Orange-Book Standard*, May 6, 2009, Bundesgerichtshof (BGH) KZR 39/06.

[471] Guidelines on the applicability of Article 101 TFEU to horizontal co-operation agreements [2011] OJ C 11/1.

merger clearance decision,[472] but mostly in 2014 *Samsung* commitment and *Motorola* prohibition decisions.[473] Considering the commercial importance of certain standards to compete in the relevant markets, the EC perceived the risk of strategic behavior by SEP-holders, who could abuse their gate-keeping position against standard-implementers, refusing access to their SEPs, or requesting excessive licensing terms, backed-up by the threat of injunctive relief. To allay these exclusionary and exploitative concerns, the EC enlarged the spectrum of the FRAND defense, curtailing the availability of FRAND-pledged SEP injunctions only against alleged infringers unwilling to take a FRAND license, whose willingness is met more easily than Orange-Book. Indeed, from *Samsung* SEP-holders must do the first step of entering good-faith negotiations, and from *Motorola* potential licensees are not unwilling if they agree to be bound by a third party FRAND determination, or if they challenge the SEPs in suit.

In 2013, the Düsseldorf Regional Court, called to grant Huawei a SEP-based injunction against ZTE, immediately perceived the discrepancy between the German doctrine and the EC's view, and therefore it sought a preliminary ruling from the CJEU over the correct interpretation of the FRAND defense, pursuant to Article 102 TFEU. The European apical judicial authority, recognizing the exceptional circumstances of standard-essentiality and of the FRAND commitment, balanced the constitutional interest at stake, namely the right to IP and to access the court, against the freedom of competition. It indicated a new path to conclude a FRAND license. Alike the EC, recognizing that the risk of strategic behavior rests on both parties, the Court defined a negotiating framework whereby the SEP-holder must first alert the infringer, and present him a written specific FRAND offer, comprehensive of royalty rate and its calculus. Subsequently, the alleged

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[472] Case COMP/M.6381 *Google/Motorola Mobility* Commission Merger Clearance Decision of February 13, 2012 OJ C75 of 14 March 2012.

[473] Case AT.39939 *Samsung Enforcement of UMTS standard essential patents,* Commission Commitment Decision of April 29, 2014; and, Case AT.39985 *Motorola Enforcement of GPRS standard essential patents*, Commission Prohibition Decision of April 29, 2014.

infringer must diligently and promptly respond, and whether it does not accept the offer, it must present a specific FRAND counter-offer, while contemporaneously provide security for the yet-to-be agreed license, following the industry custom, which is in line with Orange-Book. Thereinafter, in case of persistent disagreement on the FRAND terms, it is up to national courts, considering all the factual circumstances, to decide whether or not the FRAND defense overcomes the exercise of the IPR, preventing the issuance of injunctions. Furthermore, ensuring the maximum freedom of the parties, and departing from both the German and the EC's precedents, *Huawei/ZTE* stated that only upon common agreement the parties can mandate an independent FRAND determination, or inhibit challenges to the SEP in suit.

The CJEU, attaining at the principle of *petitum* not to exceed its preliminary ruling jurisdiction, did not clarify the link between SEP-ownership and market dominance, nor stated what FRAND terms really mean. In light of *Huawei/ZTE*, the assessment of the SEP-holder's dominant position, far from been presumed, follows the usual economic analysis, while the specific FRAND terms, whether the parties' negotiations degenerate, are left to case-by-case litigation, as first best alternative. Because real licenses are highly circumstantiated contracts, market forces are the best means to define them. Any abstract legal rule tipping in favor of SEP-licensors or licensees is likely to tilt the voluntary standardization process, hindering respectively participation in SSOs, or adoption of standards, both to the detriment of consumers. Focusing on the balance of interests between technology contributors and standard users, the CJEU maintained the *status quo* of voluntary standardization, allowing the parties to freely contract SEPs licenses under the flexible FRAND commitment: the FRAND defense is upheld, yet subject to the SEP-holder's right to remuneration.

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Annexes

Tables

Table 1 Classification of Standards

Types of Standards Regarding their	
Function	**Establishment**
Quality	De Facto
Performance	De Iure
Interoperability	De Consenso

Edited by the author.

Table 2 ETSI Voting Rights Allocation

ETSI Voting Rights Allocation			
Voting Class	**ICT-related gross turnover in Europe (millions of EURO)**	**Number of Votes**	**Membership Fee (EURO)**
1	SMEs, Universities, public research bodies	1	From 2000 to 6000
2	Up to 15	2	9380
3	136 to 200	3	12760
4	201 to 450	6	22900
5	451 to 700	9	33040
6	701 to 1350	13	46560
7	1351 to 2000	18	63460
8	2001 to 3500	24	83740
9	3501 to 5000	30	104020
10	5001 to 8000	37	127680
11	Over 8000	45	154720

Source: M. Mariniello, "European Antitrust Control and Standard Setting", *Bruegel Working Paper,* 2013, n. 1, at p. 12.

Table 3 1994 – 2013 Mobile Device Manufacturing Industry

Year	Number of SEP-holders	Number of SEPs	Average selling price of a mobile device	Number of mobile devices sold (millions)	Total Sales (millions of $)
1994	2	139	853	29	24767
1995	4	462	639	41	26520
1996	7	710	520	65	33992
1997	19	1761	450	105	47422
1998	30	3377	402	176	70674
1999	32	3701	327	293	95847
2000	38	4865	310	407	126226
2001	47	12052	296	413	122513
2002	56	19136	263	427	112515
2003	66	24456	246	520	127996
2004	72	32960	216	674	145933
2005	82	39130	206	817	168511
2006	87	46464	190	991	187999
2007	93	54146	173	1153	199941
2008	99	64704	156	1222	191014
2009	103	86653	150	1212	181435
2010	108	106828	133	1597	211869
2011	114	126279	135	1775	239762
2012	121	146047	164	1746	285961
2013	128	157364	165	1810	298420

Source GALETOVIC A. & GUPTA K., “Royalty Stacking and Standard Essential Patents: Theory and Evidence from the World Mobile Wireless Industry”, *Stanford University Hoover IP2 Working Paper Series,* No. 15012, May 1, 2015.

Table 4 Patent Strategic Behavior

Patent Strategic Behavior	By SEP-holder	By Standard-implementer
Unilateral	Patent hold-up	Patent hold-out
Multilateral	Royalty stacking	Licensees’ cartel

Edited by the author.

Table 5 Main Rules of SSOs' IPRs Policies

IPRs Policies' Rules	Scope	
Disclosure Rules	Potentially standard-essential patents	Potentially standard-essential patent Applications
Licensing Rules	FRAND	Royalty free

Edited by the author.

Table 6 EU Leading Cases Limiting the Exercise of Exclusive Rights

Article 102 TFEU Limiting Exercises of Exclusive Rights			
	CJEU Magill and IMS Health + GC Microsoft		
Abusive Refusal to Supply an IPR	The refusal impedes a new product	The refusal has no objective justification	The refusal eliminates all competition on the market
	GC ITT Promedia and Protégé International		
Abusive Litigation	The action by the dominant firm cannot be reasonably considered as an attempt to establish one's rights	The action was conceived within a plan to eliminate competition	

Edited by the author.

Table 7 Orange-Book

Orange-Book	Yes Injunction	No Injunction
Dominant SEP-holder	Rejects an offer below acceptable terms	Rejects an offer above acceptable terms
Alleged Infringer	Does not behave as if licensed	Behaves as if licensed

Edited by the author.

Table 8 Samsung v Apple

Samsung v Apple	Yes Injunction	No Injunction
Dominant SEP-Holder	Proposes a licensing framework	Proposes a licensing framework
Alleged Infringer	Does not accept the licensing framework or seeks injunctive relief	Accepts the Licensing framework

Edited by the author.

Table 9 Motorola v Apple

Motorola v Apple	Yes Injunction	No Injunction
Dominant SEP-Holder	--------------------------	-------------------
Alleged Infringer	Is in financial distress, Its assets are located in unreachable jurisdictions, or is unwilling to license	Accepts binding third party FRAND determination

Edited by the author.

Table 10 Difference Between AG's Opinion and CJEU's Judgment

Differences Between AG and CJEU	Advocate General Wathelet's Opinion	CJEU's Judgment
Dominant SEP-Holder's Alert About the Infringement	Only if the alleged infringer is unaware of the infringement	Due in any event
Dominant SEP-Holder's FRAND Offer (with Royalty Rate and Calculus)	Due in any event	Only if the alleged infringer shows its willingness to license
Alleged Infringer's Response and Counteroffer	In a diligent and serious manner, not being purely tactical/dilatory/not serious, and specifying the dissented terms	Diligently/following recognized commercial practices/in good faith, without delaying tactics, and FRAND specific
Third Party FRAND	Upon request of the	Upon common

Determination	alleged infringer	agreement, without delay
Royalty Security by the Alleged Infringer	Upon request of the SEP-holder if the alleged infringer challenges the SEP in suit and/or asks third party FRAND determination	Mandatory since the rejection of the counteroffer

Edited by the author.

Table 11 Evolution of the FRAND Defense

FRAND Defense	Orange-Book	EC	Huawei/ZTE
FRAND Offer By	The Alleged Infringer	The Dominant SEP-Holder (Samsung)	The Dominant SEP-Holder
Royalty Security	The Alleged Infringer Must Behave as if Licensed Since its Offer	Upon Request of the SEP-Holder (Google/Motorola)	Since the FRAND Counteroffer is Rejected
Third Party FRAND Determination	Only Court's Review of the Licensing Terms Set By the SEP-Holder	After Negotiations Fail (Samsung), Upon Request of the Alleged Infringer (Motorola)	Upon Common Agreement of the Parties Without Delay
No Challenge or Termination Clauses	Compulsory in the Alleged Infringer's Offer	Proscribed Exploitative Terms (Motorola)	Upon Common Agreement of the Parties

Edited by the author.

Table 12 Outcomes of Huawei/ZTE

Huawei/ZTE	Yes Injunction	No Injunction	Case-by-Case Determination
SEP-Holder's Offer	FRAND	Non-FRAND	FRAND
Infringer's Counteroffer	Non-FRAND	-----------------	FRAND

Edited by the author.

Table 13 Article 102 TFEU Exceptional Circumstances

<table>
<tr><th>Competition Case Law Limiting Exercises of Exclusive Rights</th><th>Abusive Refusal to Supply IPRs</th><th>Abusive Litigation</th><th>Abusive Injunctive Relief</th></tr>
<tr><td rowspan="3">Exceptional Circumstances</td><td>Impeding new product</td><td rowspan="2">The action by the dominant firm cannot be reasonably considered as an attempt to establish one's rights</td><td rowspan="2">Patent's declared standard essentiality</td></tr>
<tr><td>No objective justification</td></tr>
<tr><td>Eliminates all competition on the market</td><td>The action was conceived within a plan to eliminate competition</td><td>FRAND licensing commitment</td></tr>
<tr><td>Leading Cases</td><td>Magill, IMS Health, Microsoft</td><td>ITT Promedia, Protégé International</td><td>Huawei/ZTE</td></tr>
</table>

Edited by the author.

Table 14 Georgia-Pacific Original and FRAND Factors

Comparison of the 15 Georgia-Pacific Factors for Determining a Reasonable Royalty to their Microsoft/Innovatio Application For Setting a FRAND Royalty	
Georgia-Pacific factors	**FRAND-modified factors**
1. Royalties patentee receives for licensing the patent in suit, proving or tending to prove an established royalty.	The royalties received by the patentee for the licensing of the SEP in suit in other circumstances comparable to FRAND-licensing circumstances
2. Rates licensee pays for use of other comparable to the patent in suit.	The rates paid by the licensee for the use of other patents comparable to the SEP in suit
3. Nature and scope of license in terms of exclusivity, and territorial or customer restrictions.	The nature and scope of the license
4. Licensor's established policy and marketing program to maintain patent monopoly by not licensing others to use the invention, or by granting licenses under special conditions designed to preserve that monopoly.	Not applicable
5. Commercial relationship between licensor and licensee, such as whether they are competitors or inventor and promoter.	Not applicable
6. Effect of selling the patented specialty in promoting sales of other products of the licensee; the existing value of the invention to the licensor as a generator of sales of his non-patented items; and the extent of such derivative or convoyed sales.	The effect of the SEP in promoting sales of other products of the licensee and the licensor, considering only the value of the SEP and not the value derived by its incorporation into the standard.
7. Duration of patent and term of license.	The term of the license would be co-extensive with the duration of the patent

8. Established profitability of the products made under the patent, its commercial success and its current popularity.	Established profitability of the product made under the SEP, its commercial success, its current popularity, considering only the value of the SEP and not the value derived by its incorporation into the standard
9. Utility and advantages of patent property over old modes and devices, if any, used for working out similar results.	The utility and advantages of the patent property over alternatives that could have been written into the standard instead of the SEP during the standardization process
10. The nature of the patented invention; the character of the commercial embodiment of it as owned and produced by the licensor; and the benefit of those who have used the invention.	The contribution of the SEP to the technical capabilities of the standard
11. The extent to which the infringer has made use of the invention and the value of such use, and any evidence probative of the value of that use.	The contribution of the standard to the licensee and licensee's products, considering only the value of the SEP and not the value derived by its incorporation into the standard.
12. The portion of profit or selling price customarily allowed for the use of the invention or analogous inventions.	The portion of the profit or of the selling price that may be customary in the particular business or in comparable businesses to allow for the use of the standard or analogous standards that are also covered by FRAND encumbered SEPs
13. The portion of realizable profit attributable to the invention as distinguished from non-patented elements, significant features / improvements added by the infringer, the manufacturing process or business risks.	The portion of the realizable profit that should be credited to the SEP as distinguished from non-patented elements, the manufacturing process, business risks, significant features or improvements added by the infringer, or the value of the SEP's incorporation into the standard.

14. Opinion testimony of qualified experts.	The opinion testimony of qualified experts
15. The amount that a licensor and a licensee would have agreed upon at the time the infringement began, if both had been reasonably and voluntarily trying to reach an agreement (i.e. outcome from hypothetical arm's length negotiation at the time of infringement began).	The amount that a licensor and a licensee would have agreed upon at the time the standard was adopted if both were considering the FRAND commitment and its purposes, and had been reasonably and voluntarily trying to reach an agreement.

Source: J. I.D. LEWIS, *What is "FRAND" All About? The Licensing of Patents Essential To An Accepted Standard*, November 2014, unpublished manuscript.

Table 15 Prominent Cases Cited

SEPs Cases Cited					
Case	**Court or EC**	**Year**	**Standard and/or SSO**	**Allegations**	**Outcome**
Orange-Book	BGH	2009	CD-R, CD-RW	Patent Infringement	Injunctive Relief
IPCom	EC	2009	GSM and UMTS by ETSI	Exploitative Licensing Terms	FRAND Public Announcement
Rambus	EC	2009	DRAM by JEDEC	Patent Ambush and Exploitative Licensing Terms	Commitment Decision
Qualcomm	EC	2009	WCDMA (part of UMTS) by ETSI	Exploitative Licensing Terms	Investigation Closed without sending the SO.

Google/Motorola	EC	2012	Mobile Standards by ETSI et al.	Merger Procedure	Merger Clearance
Samsung	EC	2014	UMTS by ETSI	Abusive Injunctions	Commitment Decision
Motorola	EC	2014	GPRS by ETSI	Abusive Injunctions	Prohibition Decision
Huawei/ZTE	CJUE	2015	ETSI	FRAND Defense	Preliminary Ruling

Edited by the author.

Abstract in Italian

Questa tesi, in primis, tratta di standard industriali, definiti come insiemi di specifiche tecniche che permettano l'interoperabilità tra diversi prodotti. Gli standard sono adottati dagli operatori di un determinato mercato, concorrenti inclusi, riuniti in organismi di normazione (i.e. SSOs). Per rispettare l'articolo 101 TFUE, la Commissione Europea richiede agli SSOs di predisporre processi decisionali trasparenti e volontari, assicurandone la partecipazione aperta ed illimitata. Gli standard devono poi essere effettivamente accessibili ma non obbligatori. In particolare, entro gli organismi di normazione, i detentori di brevetti potenzialmente essenziali ad implementare uno standard (i.e. SEPs) sono obbligati a divulgare tali brevetti, e ad impegnarsi a concederli in licenza a condizioni eque, ragionevoli e non discriminatorie (i.e. FRAND).

È stata poi analizzata la difesa FRAND, risultante dalla sentenza *Huawei/ZTE*, resa in via pregiudiziale dalla CGUE. La Corte ha ammesso che, nelle circostanze eccezionali d'essenzialità di un brevetto al fine dell'applicazione di uno standard, nonché dell'impegno di concedere in licenza a terzi tali brevetti a condizioni FRAND, l'azione inibitoria esperita dal titolare dei SEPs possa essere impedita dal presunto contraffattore adducendone la contrarietà al divieto di abuso di posizione dominante.

Huawei/ZTE ha sconfessato la giurisprudenza tedesca risalente al giudizio *Orange-Book*. Questa ammetteva la difesa FRAND se il detentore del SEP avesse declinato un'offerta di licenza a condizioni solo abusivamente rifiutabili, sempreché il contraffattore avesse dimostrato di essersi comportato da licenziatario. È stato anche smentito l'approccio attuativo della Commissione Europea in *Samsung* e *Motorola*, secondo cui il presunto contraffattore avrebbe potuto rivendicare con successo la difesa FRAND semplicemente accettando la vincolatività della determinazione da parte di un terzo dei termini di licenza FRAND, pur contemporaneamente impugnando i brevetti oggetto della licenza. La CGUE, riconoscendo che entrambe le parti possono ricorrere a comportamenti brevettuali strategici, ha definito un quadro negoziale che assicura termini FRAND sia per la remunerazione dei titolari dei SEPs,

che per l’accesso agli standard da parte degli sviluppatori, escludendo che azioni inibitorie o l’articolo 102 TFUE, siano usati come espedienti negoziali.

Da ultimo sono presentati ulteriori sviluppi sulle questioni relative alle licenze FRAND, inevitabilmente lasciate aperte dalla CGUE, speculando in specie ove la proprietà di un brevetto essenziale implichi una posizione dominante, e come debbano essere determinati i termini FRAND.

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