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„In the pursuit of the balance between EU Competition law and IP rights in the context of essential facilities, standardisation and the FRAND commitment“

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Martina Yordanova Dimitrova

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Table of Contents

List of abbreviations	3
Introduction	4
I. Intellectual Property	5
1. Overview	5
2. Copyright and related rights	6
3. Trademarks	6
4. Geographical indications	7
5. Industrial designs	7
6. Patents	8
7. IP licensing	9
II. Where does competition law meet IP law?	10
1. Overview	10
2. Freedom to contract v compulsory licensing	11
3. Abuse of dominance under Art.102 TFEU	12
3.1. <i>The concept of 'dominance'</i>	13
3.2. <i>Abuse</i>	14
III. The 'essential facilities' doctrine	15
1. Case law background	15
2. Intellectual property through case law perspective	17
2.1. <i>Volvo</i>	17
2.2. <i>Magill</i>	18
2.3. <i>IMS Health</i>	19
2.4. <i>Astra Zeneca</i>	19
2.5. <i>Microsoft</i>	20
3. Summary	21
IV. Standardisation	22
1. History	22
2. What is a standard?	23
3. Standard setting process	24
4. EU's policy on standardisation	26
5. European Standards	27
6. Standard essential patents and their role in the standardisation process	28
7. <i>Orange Book Standard</i>	30
V. Fair, reasonable and non-discriminatory	31
1. Prerequisites of the FRAND commitment	32
1.1. <i>Bona fide negotiations</i>	32
1.2. <i>Fair and reasonable</i>	33
1.3. <i>Non-discriminatory</i>	34
2. FRAND commitments under case law	36
2.1. <i>Motorola & Samsung</i>	36
2.2. <i>Huawei</i>	38
3. How are reasonable royalties estimated?	41
3.1. <i>General remarks</i>	41
3.2. <i>Unwired Planet v Huawei</i>	42

VI. ADR for FRAND disputes	44
Conclusion	45
Abstract	48
Bibliography.....	50

List of abbreviations

ADR	Alternative Dispute Resolution
AG	Advocate General
CEN	European Committee for Standardization
CENELEC	European Committee for Electrotechnical Standardization
CJEU	Court of Justice of the European Union
EU	European Union
EUIPO	European Union Intellectual Property Office
ETSI	European Telecommunications Standards Institute
FRAND	Fair, Reasonable and Non-Discriminatory
GC	General Court
GPRS	General Packet Radio Service
ICT	Information and Communications Technology
IoT	Internet of Things
IP	Intellectual Property
IPR	Intellectual Property Right
ISO	International Organization for Standardization
ITU	International Telecommunication Union
SEP	Standard-Essential Patent
SSO	Standard Setting Organisation
TFEU	Treaty on the Functioning of the European Union
TRIPS	Agreement on Trade-Related Aspects of Intellectual Property Rights
UK	United Kingdom
UMTS	Universal Mobile Telecommunications System
WIPO	World Intellectual Property Organization

Introduction

The year is 2018. Welcome to the fourth industrial revolution - the digitalisation. The ages of the flourishing world of artificial intelligence, Big Data, cloud computing and the Internet of Things.¹

We all possess a little thing called a 'smartphone' that might have seemed impossible or even ridiculous some years ago but now it is the most natural and common thing for a person to have.

We use it as a camera, a calculator, a music player, a game player, even as a mini computer and so many other applications. It is an incredible invention, almost indispensable nowadays but was that a result of the mind of a one person only? Try with hundreds of thousands individually patented inventions that were the result of almost that many people's intellectual works.

We get home, connect the phone to the WiFi², connect it to the TV or to the speakers, connect it to other types of smartphones or to whatever we want. We do the same even when being in other countries, talk freely no matter the brand, the country or the mobile operator. How did this interoperability happen? The answer is simple – through standardisation. The process of setting and developing standards is not simple, though. It encompasses detailed procedures, organisations, loads of patents and loads of conflicting interests.

This work will try to analyse and track the path of the intellectual property that is so fundamental and indispensable in the relevant market that its proprietor is obliged to disclose it to the competition, to grant access to it and set aside his/her exclusive rights. Then it will go through an explanation of how standardisation works and what constitute the patents essential to the standards that are disclosed and licensed in the sake of interoperability and compatibility. It will also jump into the deep and still

¹ Hereinafter IoT, it comprises of objects that can be connected to the Internet and consequently to gather and receive data. See more: Jacob Morgan, 'A simple explanation of the Internet of Things' (Forbes, 13 May 2014) <https://www.forbes.com/sites/jacobmorgan/2014/05/13/simple-explanation-internet-things-that-anyone-can-understand/#5a8f32e01d09> accessed 3 June 2018.

² Wifi is a standardised wireless technology, see chapter IV.

unspecified world of FRAND terms with the hope to find a more clear and concise delimitation of the same and define where the balance between the legitimate interests of the owners of SEPs³ and the unhampered competition lies.

Lastly, the thesis will focus on the significantly controversial topic of royalty rates' determination and the most efficient, to the author's personal perspective, dispute resolution mechanism - arbitration.

I. Intellectual property

1. Overview

As this thesis is dedicated to the digital era and the process of developing standards, it would be suitable to briefly outline the different types of IPRs but stress particularly on the patents as they are the most relevant IP right when speaking about technology and standardisation.⁴ It is crucial to understand the notion of intellectual property law, despite only on a basic level, and link it to competition law, where the conflict is born.

Private property rights date back to Roman time but property shall not be understood *sensu stricto* when speaking about IP rights. It is true that intellectual property encompasses some of the regular ownership exclusive rights such as exploiting the right, managing it and getting benefits from it, however, the intellectual property rights are not protecting the material objects but the non-tangible result of the mental activity of the creator in the industrial, scientific, literary and artistic fields.⁵ More specifically, intellectual property can be divided into two categories – (i) copyright, which consists of artistic and literary works and their related rights; and (ii) industrial property, which includes industrial designs, geographical indications, trademarks and patents.

³ Standard Essential Patents (hereinafter SEPs), see chapter chapter IV, point 6.

⁴ Note that other IP rights shall not be excluded, the limitation is for the purposes of the present thesis.

⁵ WIPO, *Wipo Intellectual Property Handbook*, (2nd edition, WIPO Publication 2004) p 3.

2. Copyright and related rights

Subject to copyright are artistic, literary and scientific works which are results from creative endeavours and which shall be expressed by any means in a tangible form.

The romantic view of being an artist from centuries ago and its nature is the reason why copyright still does not require any prior registration unlike other IPRs and receives protection automatically. The most common case is that the works are protected 70 years after the death of the author but in some jurisdiction may differ.⁶

The related rights, on the other hand, are those works not created by the author of the original work, but by TV and radio broadcasters, performers, phonogram producers.⁷ They have a 50-year-long protection from the time the performance was delivered or the later date that it was made accessible to the public.⁸

3. Trademarks

The purpose of a trademark is to make it possible to distinguish a certain product or a service of one undertaking from the ones of an another undertaking. It can have the form of a sign, sound, colour, words, letters, numerals or a mixture of these, however, some countries may register other types such as smells or invisible ones that are recognisable by touching.⁹

In order to protect a trademark, it must go through a registration procedure¹⁰ by the competent authority of the territory sought to be protected within¹¹, that requires certain criteria to be fulfilled such as:

(i) to be distinctive;

⁶ See more the Berne Convention for the Protection of Literary and Artistic Works (as amended on September 28, 1979).

⁷ May vary in different countries, see Rome Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organisations (1961).

⁸ This means to make a performance in a public place such as a hall or by broadcasting, uploading it to the Internet, etc.

⁹ WIPO, *Wipo Intellectual Property Handbook*, (2nd edition, WIPO Publication 2004) p 70.

¹⁰ Exception of the rule - through use, become famous and thus treated as registered.

¹¹ National Offices, the World Intellectual Property Organisation (in Geneva, Switzerland), the European Union Intellectual Property Office (in Alicante, Spain).

- (ii) not to be generic;
- (iii) not to be descriptive;
- (iv) not to be in conflict with public policy or morals; and
- (v) not to be a sign reserved for public organisations, institutions or the state.

Their protection lasts 10 years but can be renewed for a non-limited time every 5 years, nonetheless, if the trademark has not been used for a period of five years, it could be attacked and consequently cancelled.

4. Geographical indications

These are signs that indicate that goods/ products originate from a certain area or place and their qualities are especially due to this geographic seat.¹² Here it should be noted that two types are recognised within the term – (i) indications of source and (ii) appellations of origin.¹³

According to WIPO¹⁴, to indicate by means of any expression or sign that a product or service originates from a specific place, region or country is the ‘indication of source’, while the ‘appellation of origin’¹⁵ is for the cases when the product’s characteristic qualities are due exclusively or essentially to the geographical environment, including natural or human factors or both of them, and they include the designation of the geographical name of a country, region or specific place.¹⁶

5. Industrial Designs

They encompass the protection on the ornamental characteristics of an object of utilitarian use or of a packaging of a product. The beauty of the art applied to an object makes it undeniably more desirable and, therefore, adds value, allowing the

¹² E.g. ‘Champagne’, ‘Parmigiano Reggiano’, ‘Cognac’, etc.

¹³ See Paris Convention for the Protection of the Intellectual Property (as amended September 28, 1979) Art.1 para 2.

¹⁴ World Intellectual Property Organisation.

¹⁵ See Lisbon Agreement for the Protection of Appellations of Origin and their International Registration (as amended on September 28, 1979) Art 2 para 1.

¹⁶ WIPO, *Wipo Intellectual Property Handbook*, (2nd edition, WIPO Publication 2004) p 120.

manufacturer to attract more consumers to its base and differentiate itself from the competition. The important factor is the visual appeal of the products that can consist of colours, lines or other special 3D forms.

The usual term of protection is 15 years (an initial period of five years with the possibility of renewal for two further periods of five years each), some jurisdictions go up to 25-year-long protection, while others limit it to just ten years.¹⁷ The protection is upon the condition of a prior registration which requires the design to be (i) novel¹⁸ or (ii) original/ having individual character.¹⁹

6. Patents

The patent itself is nothing more than a document describing a certain process for the reproduction of an invention, which is the fruit of the human mind and which is susceptible of large-scale industrial application. Simply put, it is a technical solution to a problem within the technology sector and this is why it is of utmost relevance to the present analysis.

The protection conferred by the patent²⁰ is the exclusivity granted to the inventor in order that he may exploit his invention economically, whether by means of the license of his invention to third parties, or the assignment of the patent granted for a certain industry capable of reproducing the process. In order to be protected, it shall be registered in the competent patent office, proving that the invention:

- (i) is novel²¹;
- (ii) has an inventive step²²; and
- (iii) has industrial applicability.²³

¹⁷ *Ibid* p 117.

¹⁸ According to Council Regulation (EC) No 6/2002 of 12 December 2001 on Community designs [2001] OJ L3/1, art.5 para 1: '[a] design shall be considered to be new if no identical design has been made available to the public'.

¹⁹ *Ibid* Art. 6: shall mean 'if the overall impression it produces on the informed user differs from the overall impression produced on such a user by any design which has been made available to the public'.

²⁰ Normally the protection lasts for 20 years (25 for pharmaceuticals).

²¹ Meaning not to be part of state of art.

²² To be non-obvious (for a person having the ordinary knowledge and skills in the field).

7. IP licensing

What shall be of greater importance to the present thesis is the part of IP law that regulates the right to license. We will observe how licensing is not always a matter of free will but first we need to examine it in general terms. The license consists of a permission given by the IPR owner to another party to use it in exchange of a payment of a fee (royalty).²⁴ It is a contract that specifies the actions permitted and conferred to the licensee which in any other case would amount to an infringement, however, the terms can be various in scope. The parties have contractual and thus enforceable rights that can be negotiated freely, despite in the cases we will see later on. The main purpose of the licensor is to get remunerated for his work and to try recovering the expenses made during the research and development process of his creation. The ‘monopoly’ created by patenting an invention situates the owner of the intellectual property right in a strong negotiation position in comparison with his competitors that try to get hold of something that they cannot make themselves. The patentee becomes predominant in the negotiations while the other players on the market need the patented invention for their own business and so to not exit said market. This powerful position, in particular, is the prerequisite for the competitors to be able to attack the IP holder’s decision in case of refusal to license or abusive royalties’ bargaining.

Pooling is a more peculiar case of granting licenses that consists of an agreement between two or more undertakings that decide to gather their patents and make them available to each other because they are necessary to make a certain product. As mentioned in the introduction of this thesis, technology devices are formed by numerous different patents, held by different companies. It is a good cost-saving and time-saving strategy and even might resolve the issue of patent-blocking.²⁵ Pooling of patents can facilitate the process of production of goods and services, making it more

²³ To possess certain kind of usefulness.

²⁴ There are cases that licensing is for free or in exchange of another IP (cross-licensing).

²⁵ Two patents are said to be "blocking" when the practice of one requires infringement (or a license) of the other. See more Hovenkamp, Erik and Hovenkamp, Herbert J., ‘Patent Pools and Related Technology Sharing’ (2017) FS 1766, pp 3-4.

efficient.²⁶ The pools organise IP assets into a single contract and can allow licensing them not only to the members of the pool but also to interested third parties²⁷ and facilitate transferring of technology which can either maintain effective competition or the opposite way around. A pool can be constructed as a joint venture whose purpose is to gather and share the intellectual property rights of two or more proprietors²⁸ but also can be used as concerted practices to harm competitors such as using fixing prices strategies.²⁹

II. Where does competition law meet intellectual property law?

1. Overview

At first glance, intellectual property rights and competition law do not have much in common, do they? It is true that IPRs confer an exclusive right (a monopoly) to the proprietor of the intellectual property, while free competition is maintained by preventing monopolies or abusive dominance in the market.³⁰ However, they are closely connected when speaking about indispensable IPRs and in the following paragraphs I would attempt to showcase their ‘relationship’ even though being quite controversial and still subject to a lot of debates is whether harmony between the two is possible or not.

Naturally, when two rights are ‘competing’ or are in conflict with one another, one of them shall prevail over the other but how would that be ensured legally? If competition law as the primary one prevails without any given basis over intellectual property rights,

²⁶ WIPO, ‘Patent Pools and Antitrust – A Comparative Analysis’ (2014) p 9 http://www.wipo.int/export/sites/www/ip-competition/en/studies/patent_pools_report.pdf accessed 2 June 2018

²⁷ *Ibid.*

²⁸ *Ibid* p 3 *in fine*.

²⁹ Dessy Choumelova, ‘Competition law analysis of patent licensing agreements – the particular case of 3G3P’ (2003) 1 CPN 41.

³⁰ J Turner, *Intellectual Property and EU Competition Law* (2nd edn, 2010 Oxford University Press).

then the incentives for innovation will be faded and creators of IP won't be even bothered to invest in research and development resulting in stifling technology advancement. On the one hand, it is the patent law³¹, still rather national in scope although harmonisation is not that far away, hopefully, while on the other hand, there is primary EU law concerning and ensuring free competition. The case is not that straightforward and somehow there should be assurance that both sides' rights are respected and taken into account. So the natural answer to a problem of such nature is a checking scheme created by the competent authorities in order to cope with the difficulties faced by the courts to resolve IP licensing disputes. In the European Union, the 'exceptional circumstances test' emerged from the need to resolve this clash (between competition law and IPRs) so that to find the balance between the IP holder's exclusive rights and still ensuring effective competition. This evaluation constitutes a reasonable implementation of the optimal legal standard for the assessment of refusals to license intellectual property³² and aims to set the difference between the exclusive rights of exploitation within IP law and the monopoly in competition law. It also tries to savour the incentives to innovate, which is the primary goal of patent law, while in the meantime maintaining an effective and unhampered competitive market with the optimal aim of not harming the final consumers.

2. Freedom to contract v. compulsory licensing

In general, an undertaking is free to choose who to enter in an agreement with and how to conduct its business, as it is the case with licensing IPRs. The usual case is the voluntary character of a contract, where the IPR owner chooses the most suitable licensee/s and they agree on the terms of the contract through negotiations in terms of their personal needs and preferences. However, I would like to draw the attention to the cases when the owner of the intellectual property right is forced to enter in an agreement and to disclose his/her intellectual property rights to the competition.

³¹ As mentioned in Chapter I of this thesis, only patent law will be further discussed.

³² David S Evans and A Jorge Padilla, 'Designing Antitrust Rules for Assessing Unilateral Practices: A Neo-Chicago Approach', (2005) U. CHI. L. REV., 73.

Compulsory licensing is primarily known as governmental actions, restricting the rights of the IP holder, allowing another person/undertaking to use them without given consent.³³ Nonetheless, I will study the cases of competition law in breach of Art.102 TFEU³⁴, which deals with exceptions of the freedom of contract rule and, more specifically, the ‘refusal to deal’ concept which is the basis of the ‘essential facilities’ doctrine. The application of the essential facilities doctrine to IP rights reflects a primary tension between competition law and intellectual property law³⁵ and presents a complex issue of competition law, which this thesis will try to link with another problem - the violation of the FRAND obligations.

3. Abuse of dominance under Art. 102 TFEU

It is imperative to mention that this article does not prohibit the position of dominance in general, nor implies any abuse whatsoever. It is logical and natural that some companies have much greater market power than their competitors and dominate the market due to their successful business strategies. However, this market lead over their competitors puts the undertakings in question in a situation of exceptional responsibility

³³ See art.31 of Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299, 33 I.L.M. 1197 (1994) [hereinafter TRIPS Agreement].

³⁴ Consolidated version of the Treaty on the Functioning of the European Union OJ C 326/12, Art.102:

(ex Article 82 TEC)

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.

³⁵ Thomas F. Cotter, ‘Intellectual Property and the Essential Facilities Doctrine’, (1999) 44 Antitrust Bull. 211, p 235.

that forces them to be especially careful not to impede the free competition. Thus, behaviours that in a competitive situation would be considered neutral or even positive, can be considered abusive if they are carried out by companies in a dominant position. The Treaty on the Functioning of the European Union stipulates in its Art. 102 that two cumulative conditions are to be fulfilled for a infringement of the same, which are - (i) dominant position and (ii) the abuse of the same.

3.1. The concept of 'dominance'

This dominance can be derived from the ability of an undertaking to affect and to define certain conditions on the relevant market, having the economic power to act individually and to effectively hamper and have influence over the competition. Consequently, there are several factors, both structural and behavioural, that together determine that an undertaking enjoys such position with respect to its competitors in that market. The dominant position is manifested in the economic power of each company, which allows it to exert a remarkable and predictable influence on the relevant market.³⁶ For a position to be dominant, therefore, it is necessary that the undertaking enjoys the economic power that allows it to become independent of the decisions of its competitors, i.e. to act unilaterally and control the market to its benefit and force their decisions on the players with weaker positions.

It shall be beared in mind that this does not tantamount to monopolisation (as it would be the case when a Member State grants a right over a certain service to be operated exclusively just by one company) but here it is a question of a wider concept.³⁷ Notwithstanding, it might get closer when IP rights are concerned because they confer a certain monopoly to their owner that gives the right to exclude others thus creating a dominance, but only in special cases.³⁸

³⁶ Pascual and J Vicente, 'Abuso de posición dominane en mercados conexos: Doctrina reciente del Tribunal de Defensa de la Competencia', (2001) 1 Anuario de competencia 259, p 263.

³⁷ D Chalmers, G Davies & G Monti, *EU Law*, (3rd edition Cambridge 2014) p 1032.

³⁸ See Chapter III.

In the first place, to define the dominance characteristics, the market shares are to be considered when assessing is carried out. In general, they show the level of power in comparison with the other players on the relevant market and its economic strength.

For example, in the case of *Hoffmann La Roche*³⁹ was found that the undertaking in question (Hoffmann La Roche Ltd.) was indeed abusing its dominant position by concluding agreements with fidelity rebates for the purchasers that obtain the products/services (here vitamins) exclusively from the dominant company.⁴⁰ The Court of Justice of the European Union⁴¹ decided that although the importance of such market shares differ depending on the relevant market, there are certain situations when the undertaking is presumably dominant, in particular when very large shares are concerned.⁴² ⁴³ It was added, however, that not only the volume of shares but also the amount of time holding such substantial influence is to be decisive as well.

Moreover, in the later following *AKZO*⁴⁴ case, it was determined that the possession of 50 per cent of the market shares constitutes a dominance by presumption, while other cases⁴⁵ suggested that when faced with 40-50% shares, other factors are to be considered relevant, too. For instance, the barriers to enter the market need to be studied as well as all other conditions to effectively operate on the market.

3.2. Abuse

The other prerequisite mentioned is the conduct followed by the undertaking. There are different kinds of abusive behaviours that are forbidden depending on the objectives set and aims achieved. Once again should be stressed on the fact that only dominant undertakings make such normal practices abusive and can cause anti-competitive effect.

³⁹ Case 85/76 *Hoffmann-La Roche & Co. AG v Commission* [1979] ECR 00461.

⁴⁰ They constitute certain discounts from the prices, aiming at stimulating the demand of products/services, but sometimes having the effect of preventing competitiveness among competitors in the market.

⁴¹ Hereinafter CJEU.

⁴² Case 85/76 *Hoffmann-La Roche & Co. AG v Commission* [1979] ECR 00461, para 41

⁴³ *Ibid* para 8.

⁴⁴ Case 62/86 *AKZO v Commission* [1991] ECR I-3359, para 60.

⁴⁵ Case 27/76 *United Brands v Commission* [1978] ECR 207, paras 109–10; Case T-219/99 *British Airways v Commission* [2003] ECR II-05917, paras 211–24.

On the one hand, the abuse can consist of exploitation such as setting unfair conditions when contracting with other parties or establishing predatory prices for their products or services. In this way, the dominant undertaking harms the final consumer by its actions and not the competitors directly. The EU Commission, however, is not very much concerned about sanctioning this type of abusive actions due to the complexity in determining the parameters of such intervention.⁴⁶

On the other hand, the company can try to make its competitors exit the relevant market in order to maintain its superior ground. This can be achieved by the so-called ‘exclusionary practices’ that have been developed and analysed through time by the CJEU in a non-exhaustive manner. They include, among others, the application of predatory pricing, margin squeeze, bundling and tying and the matter in question - essential facilities. By using such practices the dominant undertaking achieves several results — (i) safeguarding its dominance, (ii) facilitating its subsequent exploitation, and (iii) denying others opportunity of participation in the market.⁴⁷

III. The ‘essential facilities’ doctrine

1. Case law background

The essential facilities doctrine supposedly dates back from the United States in 1912 when the Supreme Court resolved some significant issues in the *United States v/s Terminal Railroad Association of St. Louis*⁴⁸ case.

As a result of the conflict, which affected the rail transport market in the US, it was questioned for the first time the harmful effect on free competition that can be generated by a monopolistic control exercised by a controlling company of a certain infrastructure or facility, essentially necessary to participate efficiently in a given market. The court’s decision forced the controlling company of the facility to share its

⁴⁶ D Chalmers, G Davies and G Monti, *EU Law*, (3rd edition Cambridge 2014) p 1035.

⁴⁷ *Ibid* p 1036.

⁴⁸ *United States v. Terminal Railroad Ass'n* [1912] 224 U.S. 383.

essential structures with the other competitors, after paying a fee adjusted to the ordinary use of these essential facilities and that would not discourage, in terms of its amount, the real possibility to access them and of competing with the controlling company on equal terms.

As for Europe, it was first introduced in terms of ‘refusal to deal’⁴⁹ to port infrastructures in *Commercial Solvents*⁵⁰ which was later spread to other industries and services. The CJEU ruled that a dominant undertaking cannot refuse to supply another undertaking on the basis that the latter enters the same relevant market. In general, there are two types of the refusal to supply that include the cases of refusing to supply goods/services that are already put on the market and denying supply of non-available goods/services on the market.⁵¹

Then, the *Oscar Bronner*⁵² case was the one to apply and clarify the doctrine within CJEU jurisprudence. Mr. Bronner was a publisher in the 1990s of the new then newspaper ‘Der Standard’. He asked the publishing undertaking ‘Mediaprint’ (at the time publishing other newspapers such as ‘Kurier’ and ‘Kronner Zeitung’) to give him access to their distribution services, which was later refused. The Austrian Kartel Court that was deciding on the case of the refusal then filed a request for a preliminary ruling which resulted in establishing three conditions that are to be satisfied in order for a dominant company to be obliged to grant access to its essential facilities to the competitors.

Firstly, in case of a denial to provide access, as a result the concerned competitor would exit the market, meaning that if denied, it would cause a likelihood of eliminating all

⁴⁹ When refusing to deal is present, the dominant undertaking is then obliged to enter into a contract (to deal) against its will.

⁵⁰ Joined Cases 6/73 and 7/73 *Istituto Chemioterapico Italiano SpA and Commercial Solvents Corporation v. EC Commission*, 6 March 1974, [1974] ECR 223.

⁵¹ Liyang Hou ‘Refusal to Deal within EU Competition Law’ (June 11, 2010) p 2, available on: <https://dx.doi.org/10.2139/ssrn.1623784> accessed on 4th June 2018.

⁵² Case C-7/97 *Oscar Bronner GmbH & Co. KG v Mediaprint Zeitungs- und Zeitschriftenverlag GmbH & Co. KG, Mediaprint Zeitungsvertriebsgesellschaft mbH & Co. KG and Mediaprint Anzeigengesellschaft mbH & Co. KG* [1998] ECR I-7791.

competition in the relevant market.⁵³ Secondly, the essential facility concerned is impossible to be replicated by the competitors due to economic, technical or legal obstacles.⁵⁴ Lastly, the dominant company's denial shall be deemed lawful if only provided with objective justifications on the matter.⁵⁵

In conclusion, the Court decided that the condition of replication was not met by the plaintiff as even though the home delivery system duplication was very expensive, it was not impossible and Mr. Bronner could have distributed 'der Standard' in other places such as supermarkets, shops or kiosks.⁵⁶

So despite accepting the doctrine of the essential facilities, the Court of Justice of the European Union set a high burden of proof for the competitors and thus still protecting the undertakings in a dominant position.

2. Intellectual property as essential facilities through case law perspective

2.1. Volvo

Under discussion in *Volvo*⁵⁷ was the 'subject matter' of intellectual property rights confirming that the proprietor without prior consent can exclude third parties in terms of manufacture, selling, importing regarding 'products incorporating the design'. Three circumstances were laid down, nonetheless, when compulsory licensing is lawful and obligatory:

- (i) arbitrary refusal⁵⁸;
- (ii) unfair fixing of prices⁵⁹ or suspending of manufacture of certain products (here 'spare parts for a particular model even though many cars of that model are still in circulation')⁶⁰; and
- (iii) liable to have an effect on trade between Member States.⁶¹

⁵³ *Ibid* para 41.

⁵⁴ *Ibid* para 44.

⁵⁵ *Ibid* para 25.

⁵⁶ *Ibid* paras 42-46.

⁵⁷ Case 238/87 *AB Volvo v Erik Veng (UK) Ltd* [1988] ECR 6211.

⁵⁸ *Ibid* para 9.

⁵⁹ *Ibid*.

⁶⁰ *Ibid*.

2.2. Magill

*Magill*⁶² was the case which developed the principle further and compulsory licensing was ordered by the CJEU. It is believed to have put the beginning of IPRs being recognised as essential facilities within the EU and restricting the copyright holders' absolute rights.

In the abovementioned case, it was a matter of three English and Irish television broadcasters that refused to share the listed information of their programmes to a magazine publisher (in particular Mr. Mac Gill) that made a TV guide claiming to be in breach of their copyright. At the time, a guide of such kind had not been made before and their refusal was sought to be declared as abuse of their dominant position. The CJEU then set four conditions needed for a breach of Art. 102 TFEU to exist, more specifically:

- (i) absence of actual or at least potential substitution, making the IPR fundamental, 'indispensable' to the third party⁶³;
- (ii) no justification of the rejection⁶⁴;
- (iii) the refusal hampers the way of a 'new product' to enter the market⁶⁵; and
- (iv) elimination of all competition possible due to the refusal, reserving the market for the IP holder.⁶⁶

The Court also held that the exclusive rights conferred by an IP right are not *per se* abusive, but in some 'exceptional circumstances' indeed they may be regarded in this way. This 'test' established strict conditions under which an underaking could be forced to license out its intellectual property⁶⁷ and the circumstances were subject to discussions and rulings on several occasions that developed it further, the most important of which are to be analysed below.

⁶¹ *Ibid.*

⁶² Joined cases C-241/91P and C-242/91P *Radio Telefis Eireann and others v. Commission (Magill)* [1995] ECR I-743.

⁶³ *Magill* para 52.

⁶⁴ *Ibid* para 55.

⁶⁵ *Ibid* para 29.

⁶⁶ *Ibid* para 56.

⁶⁷ Martin Angelov, 'The 'Exceptional Circumstances' Test: Implications for FRAND Commitments From The Essential Facilities Doctrine Under Article 102 TFEU' (2014) 10 ECJ 27, p 45.

2.3. *IMS Health*

Twelve years later, *IMS Health*⁶⁸ case provided an assertion by the CJEU that the conditions set in *Magill* are of cumulative character and need to be fulfilled as a whole.⁶⁹ The case concerned a copyright as well, held by IMS Health in Germany, regarding a database of pharmaceuticals (the essential 1860 bricks system⁷⁰). The Court stated that all the criteria of the ‘exceptional circumstances’ (as determined in *Magill*), must be fulfilled in order for a compulsory license to be granted⁷¹ confirming the firm approach previously adopted. A new criterion was also added - the identification of two markets⁷² when there is a ‘*refusing to supply*’, meaning ‘*to have the effect of reserving a secondary market for the dominant undertaking*’.⁷³

2.4. *Astra Zeneca*

*Astra Zeneca*⁷⁴ was a case that related to the patenting of pharmaceuticals. The company had registered and obtained a patent for a medicine, named ‘Losec’ in 1988, which was soon to expire in the year of 2000 so the undertaking decided to try prolonging its protection period. The strategies adopted included applying for a supplementary protection certificate in several Member States with the use of information that was not true and also deregistering the patent and replacing it with a similar one in different Member States.

Not long after that the answer from their competitors came, in particular manufacturers of generic medicamentations, and they filed a complaint on the grounds of breach of Art.102 TFEU which was later upheld by the EU Commission and the General Court.

⁶⁸ Case C-481/01 *IMS Health GmbH & Co. v. NDC Health GmbH & Co. KG* [2004] ECR I-5039 para 38.

⁶⁹ *Magill* para 38.

⁷⁰ *IMS Health* para 4: ‘each corresponding to a designated geographic area’.

⁷¹ *Ibid* para 38.

⁷² With the possibility of only a hypothetical or a potential relevant market.

⁷³ *IMS Health* para 32.

⁷⁴ C457/10 P *AstraZeneca AB and AstraZeneca plc v European Commission* [2012].

The CJEU followed the GC's ruling and further elaborated on the matter, finding that *'the concept of abuse is an objective concept'*⁷⁵ and that even though Dir. 65/65/EEC⁷⁶ permits the withdrawal of a patent, this could not exempt a breach of Art.102.⁷⁷ More specifically, the Court of Justice of the European Union ruled that:

'[...] the illegality of abusive conduct under Article 82 EC is unrelated to its compliance or non-compliance with other legal rules and, in the majority of cases, abuses of dominant positions consist of behaviour which is otherwise lawful under branches of law other than competition law'.⁷⁸

The Court reminded about the special responsibilities that dominant undertakings carry and that they:

'cannot therefore use regulatory procedures in such a way as to prevent or make more difficult the entry of competitors on the market, in the absence of grounds relating to the defence of the legitimate interests of an undertaking engaged in competition on the merits or in the absence of objective justification'.⁷⁹

2.5. Microsoft

In *Microsoft*⁸⁰ a new and more balanced approach was introduced when the EU Commission imposed a sanction on Microsoft due the infringement of the abolition of abuse of dominance. Basically, the giant Microsoft denied to provide another undertaking with data concerning the interoperability of the technology and in this way hampering the possible compatibility between their products. It was also found in breach of Art. 102 TFEU by including the compulsory purchase of the 'Windows

⁷⁵ *Astra Zeneca* paras 74-75.

⁷⁶ Council Directive 65/65/EEC of 26 January 1965 on the approximation of provisions laid down by law, regulation or administrative action relating to proprietary medicinal products [1965] OJ P369.

⁷⁷ *Ibid* para 132.

⁷⁸ *Ibid*.

⁷⁹ *Ibid* para 134.

⁸⁰ Case COMP/ C-3/37.792/ ECC [2004].

Media Player‘ with their ‘Windows’ system package, which was recognised as a ‘tying’.⁸¹

Microsoft’s arguments included the defense that if such information was to be provided, their patents and goals of innovation would be violated.⁸² They also argued that the other undertaking did not meet the requirement of the ‘new product to be introduced’ but merely had a competing servers system. However, the General Court decided in favour of the EU Commission, setting the following conditions when there compulsory licensing is to be allowed under Art. 102 TFEU:

- (i) the intellectual property in question is ‘*necessary*’ for a competitor to ‘*viably stay on the market*’⁸³;
- (ii) the denial reduces ‘*the level of disclosures*’⁸⁴;
- (iii) ‘*there is a risk of elimination of competition*’ in the secondary market⁸⁵;
- (iv) the refusal to supply stifles innovation on the concerned relevant market⁸⁶; and
- (v) there is no objective justification provided, due to that the possible negative impact on the incentives to innovate is outweighed by its positive impact on the level of innovation of the whole industry.⁸⁷

3. Summary

The ‘essential facilities’ doctrine first started as protecting the physical facilities such as railroads and distribution systems, but then expanded towards other types of property, mainly due to the high capacity and technological development that undertakings have

⁸¹ According to the International Competition Network, ‘tying’ refers to a practice whereby the seller of a certain product (the ‘tying’ product) requires some or all purchasers of this product also to purchase a separate product (the ‘tied’ product). See more: The Unilateral Conduct Working Group, ‘Unilateral Conduct Workbook Chapter 6: Tying and Bundling’ (14th ICN Annual Conference, April 2015) <http://www.internationalcompetitionnetwork.org/uploads/2014-15/icn%20unilateral%20conduct%20workbook%20-%20chapter%206%20tying%20and%20bundling.pdf> accessed 11 June 2018.

⁸² *Microsoft* paras 292-93.

⁸³ *Ibid* para 779.

⁸⁴ *Ibid* para 780.

⁸⁵ *Ibid* para 781.

⁸⁶ *Ibid* 782.

⁸⁷ *Ibid* 783.

achieved, thus also considered problems in relation to intangible assets, such as access to transmission lines, communication networks, patents, softwares, information and others.⁸⁸

The doctrine of essential facilities regarding IP rights exposes the approach to be adopted when facing compulsory licensing under competition law. It is important and still controversial how far IPRs shall be protected and what weighs more - competition or intellectual property? The cases analysed point to the competitive side although providing some hard to fulfill criterion and despite being applied in an uniform way, these considerations varied in some of the decisions. *Microsoft* was provided a much more flexible and economically-based approach, while *IMS*, for example, had a rather narrow interpretation of the doctrine.⁸⁹ The main point is that compulsory licensing under Art. 102 TFEU needs to be applied only after considering the test of ‘exceptional circumstances’ and shall be done uniformly throughout the European Union. However, this is rather challenging until reaching a full harmonisation of the intellectual property law and thus reaching legal certainty when a conflict of laws such as this arises. Until then, special attention shall be paid to striking a balance and interpreting the doctrine in a rather strict manner so to prevent its excessive abuse by the competitors of the dominant undertaking. Moreover, the broad application of the doctrine would indeed discourage inventors to obtain patents and thus obstruct the advance of technology and despite being created as a tool to protect competition it might become easily exploited and abused by the competition and thus reaching the reverse effect.

IV. Standardisation

1. History

Standards have been present for quite some time now, although people seldom realise it or think about it. If we resort back to Roman times, thousands of years in history, we

⁸⁸ Alfredo Ugarte Soto, ‘Facilidades esenciales y abuso de posición dominante’, (2013) 20 Rev. Der. Uni Católica del Norte 233, p 264.

⁸⁹ Aristeidis Demiroglou, ‘Essential Facilities Doctrine and Intellectual Property Rights: Approaches under the Competition Law’ (Master Thesis, International Hellenic University 2016) p 41.

could find a basic standardisation such as measuring and weighing systems. It is believed even that the well-known railway standard (Gauge⁹⁰) dates back from the Roman Empire where the roads were marked and eventually worned by carts and chariots.⁹¹ The legend tells that when people from posterior times realised that their vehicles are moving faster and easier within the grooves, they created the rails according to the trains' wheels and thus determined the standard to be followed later on, which is still active nowadays. Another theory points out to the Egyptians who are believed to have used pre-shaped stones (like cylinders) in order to uniform their weighing and measurement while building, even allegedly applied when constructing the Pyramids.⁹²

2. What is a standard?

Whether these theories are true or not, we would not know for sure, however, standardisation is exceptionally essential and fundamental in the time we live in and it is advancing rapidly. We have standards all around us – in cell phones, televisions, transportation, alimentation, machinery, healthcare and so on.

The definition of a 'standard' can vary slightly in different jurisdictions or areas of interest, notwithstanding, I would try to provide as far as possible a specific and clear explanation of the same. The European Telecommunication Standards Institute (hereinafter ETSI) provides a very simple delimitation of the term, comprising of '*a document that provides rules or guidelines to achieve order in a given context*'.⁹³

A more elaborate definition, though, could be found in the 'ISO/ IEC Guide 2 Standardization and related activities, General vocabulary 2004' in point 3.2. which stipulates that a standard is:

⁹⁰ Also called Stephenson gauge, consisting of a 1 435mm track between the rails, allegedly covering a 55 per cent of the railways worldwide. See also <https://www.britannica.com/technology/railroad/Intermodal-freight-vehicles-and-systems#ref528947> accessed 9 June 2018.

⁹¹ See <http://www.etsi.org/standards/why-we-need-standards> accessed 9 June 2018.

⁹² W Hesser, *Standardisation in Companies and Markets* (3rd ed Hamburg: Pro Norm 2010).

⁹³ Available on <http://www.etsi.org/standards/what-are-standards> accessed 10 June 2018.

*‘document, established by consensus and approved by a recognized body, that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context’.*⁹⁴

Standards are important for the interoperability and compatibility of technology, they promote innovation and open the markets for new business players. They are pro-competitive, raising the quality of the products and ensuring consumers’ safety and satisfaction with the products and services. Standardisation is closely related to intellectual property, of course, as it always includes a certain IPR - a patent, an industrial design, or even a copyright.

3. Standard Setting Process

The ‘birth’ of a standard could emerge due to several reasons and by different means. The most ‘natural’ one is the ‘*de facto*’ situation where a standard arises within the flow of the market, meaning that the customers choose it over the competition and through time it becomes an accepted standard. In this way, the market power of a product/service shapes the standardisation process and the customer’s preferences are the decisive factor. These standards often happen to be the pioneers on the relevant market which also helped them gain this dominance over their competitors⁹⁵ in addition to wide usage and strong market presence. The opposite of the ‘*de facto*’ standards are, of course, the ‘*de jure*’ that are required on a legal basis, as a part of a new legal act or a legislation emerged from an already existing standard. They can be distinguished with their mandatory character, their attempts to impose certainty by fiat⁹⁶ and by being ‘attacked’ for impeding innovation when they do not evolve fast enough. They can also lift the entry barriers to the relevant market for competitors and hamper the trade in

⁹⁴ International Organization for Standardisation, *ISO/IEC Guide 2:2004* (8th ed 2004).

⁹⁵ Some examples are HTML, PDF, MP3, Microsoft Word, QWERTY keyboard.

⁹⁶ International Telecommunications Union, *Understanding patents, competition and standardization in an interconnected world* (2014) p 23.

cases where the adoption of a standard works to grant market dominance to a small group of companies.⁹⁷

The setting of a standard includes the standards that are created, accepted and discussed by a Standard Setting Organisation or another standard developing body such as ISO or ETSI, for example. They go through a detailed and complex process, based mostly on principles such as, *inter alia*, consensus, technical coherence, transparency and openness.⁹⁸ The World Trade Organisation, however, has recommended four extensive principles with the aim to strengthen and clarify the process of standard setting⁹⁹, including: (i) impartiality, (ii) coherence, (iii) development dimension, (iv) due process, (v) relevance and (vi) effectiveness.¹⁰⁰

The procedure launches with a proposal for a standard development by the interested parties, usually the members of said bodies that are most often voluntary collectives from the industry or experts in the field, which is then accepted or denied. If the proposal is approved, a drafting from the technical experts (it might be a ‘Technical Board’ or a ‘Technical Body’) is prepared which is later followed by the so called ‘enquiry phase’ that consists of communicating it to the public with the opportunity of public vote and commentary. All the information collected in this phase is later made into a gathered national position. The draft would go further in case of a hundred percent approval, if not - it should be revised, reworked and then submitted once again but this time facing the ‘formal’ vote. After that it comes to the end of the process with the publication of the standard and its ‘entry into force’.

⁹⁷ *Ibid.*

⁹⁸ For example see CENELEC’s principles available on <https://www.cenelec.eu/aboutcenelec/whatwedo/standardsmakingprocess/index.html> accessed 11 June 2018 and ETSI’ standardisation principles available on <http://www.etsi.org/about/how-we-work/etsi-standardization-principles> accessed 11 June 2018.

⁹⁹ World Trade Organization Committee on Technical Barriers to Trade, ‘Decision of the committee on principles for the development of international standards, guides and recommendations with relation to articles 2, 5 and annex 3 of the agreement’(2002), s 9.

¹⁰⁰ *Ibid.*

What is more, standardisation can be achieved by informal associations such as consortiums or forums.¹⁰¹ It is believed that a more restricted and smaller group of participants is more efficient and is able to put a standard into use far more quickly in comparison to the other forms of standardisation processes. They could be established *ad hoc* (specifically for this single purpose) while other organisations have their purposes in the longer run or in a broader area of technology.

4. EU's policy on standardisation

According to the EU Commission, creating common standards has had a major role within the development of the Single Market of the European Union¹⁰², by supporting the competitive market and by securing the interoperability between services and products. They are promoted as cost-effective, safety-improving, pro-competitive, trade-enhancing and most importantly - beneficial for the EU citizens, adding to the empowerment of innovation and digitalisation. Moreover, standardisation is fundamental in improving technology development and consequently assure the efficiency of the Digital Single Market. Taking into account the rapid growth of the ICT sector, the Regulation 1025/2012 on European Standardisation^{103 104} was adopted setting the goal to enhance and make the standardisation procedure regarding the European standards faster and all-encompassing. The standard setting is especially relevant in the 5G upcoming era that will generate a whole new wave of standards and

¹⁰¹ Examples of standards developed by consortiums are USB, DVD, CD, Bluetooth (originally but later standardised by IEEE) and others.

¹⁰² See https://ec.europa.eu/growth/single-market/european-standards/policy_en accessed 11 June 2018.

¹⁰³ Regulation (EU) No 1025/2012 of the European Parliament and of the Council of 25 October 2012 on European standardisation, amending Council Directives 89/686/EEC and 93/15/EEC and Directives 94/9/EC, 94/25/EC, 95/16/EC, 97/23/EC, 98/34/EC, 2004/22/EC, 2007/23/EC, 2009/23/EC and 2009/105/EC of the European Parliament and of the Council and repealing Council Decision 87/95/EEC and Decision No 1673/2006/EC of the European Parliament and of the Council Text with EEA relevance [2012] OJ L 316.

¹⁰⁴ Note that European standards are developed by ESOs (European Standardisation Organisations), including the national bodies (*see* Publication of the list of national standardisation bodies pursuant to Article 27 of Regulation (EU) No 1025/2012 of the European Parliament and of the Council on European standardisation [2013] OJ C279/15

[https://eur-lex.europa.eu/legalcontent/EN/TXT/PDF/?uri=CELEX:52013XC0927\(02\)&from=EN](https://eur-lex.europa.eu/legalcontent/EN/TXT/PDF/?uri=CELEX:52013XC0927(02)&from=EN) accessed 12 June 2018)

the EU's attempting to foster competitiveness in the market and build a strong position in the global market.

5. European Standards

As stipulated in the Regulation 1025/2012¹⁰⁵, CEN¹⁰⁶, Cenelec¹⁰⁷ and ETSI are the bodies that adopt European standards, being the competent SSOs. The European standard has replaced the national standards of 34 European countries¹⁰⁸, members of the CEN, obliging them to adopt as national the European standards, followed by a withdrawal of the previous contradicting national ones. The result is that the new established European standard becomes a national one in the CEN members' states.

The topic this thesis is particularly concerned with are the technical standards within the ICT¹⁰⁹ industry. This term encompasses 'all devices, infrastructures and components that enable modern computing'¹¹⁰, or simpler put it covers all technical means used to handle information and aid communication.¹¹¹

The European Union's aim in this direction is to have an ICT standardisation process that is harmonised, timely, coordinated, flexible and most importantly - respectful and in virtue of the fundamental rights.¹¹² In addition, the EU Commission has set five *a priori* areas to focus on, that were selected by an advisory expert group¹¹³, in particular:

¹⁰⁵ Reg. 1025/2012, (4).

¹⁰⁶ European Committee of Standardization.

¹⁰⁷ European Committee for Electrotechnical Standardization.

¹⁰⁸ The Member States and other countries that are part of the Single Market, *see more* <https://standards.cen.eu/dyn/www/f?p=CENWEB:5> accessed 13 June 2018.

¹⁰⁹ Information and Communication Technology.

¹¹⁰ Definition given by Margaret Rouse, *see* <https://searchcio.techtarget.com/definition/ICT-information-and-communications-technology-or-technologies> accessed 13 June 2018.

¹¹¹ As defined by Eurostat, *see* [http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Information_and_communication_technology_\(ICT\)](http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Information_and_communication_technology_(ICT)) accessed June 15 2018. *See more* The EU Commission, 'The EU ICT Sector and its R&D performance' (2016) available on http://ec.europa.eu/information_society/newsroom/cf/dae/document.cfm?doc_id=5806 accessed 15 June 15 2018.

¹¹² Such as the rights of private life, personal data, property and freedom of business.

¹¹³ The European Multi stakeholder Platform on ICT Standardisation (since 2011), *see more* on <https://ec.europa.eu/digital-single-market/en/european-multi-stakeholder-platform-ict-standardisation>

(i) IoT (Internet of Things), (ii) (big) data technologies, (iii) cloud computing, (iv) 5G communications and (v) cybersecurity.¹¹⁴

6. Standard essential patents and their role in the standardisation process

Even though standardisation promotes innovation and generally enhances competition, it might distort the competitive market when a technology protected by patents is concerned. By far this chapter exhibited the favourable environment the EU creates for standardisation and technology's thrive. However, complications might arise when SEPs come into play.

In order a product to be manufactured successfully, such as a smartphone or a TV, some of the parts need to be made in the same manner as the competitors because they are standardised. These components are seen as 'essential' because they were chosen as compulsory requirements within a *de jure* standard or because they are indispensable for a *de facto* standard.¹¹⁵ They are crucial for the adopters of the standard and the patents need to be disclosed. The adopters of the standards need to access, similarly to the 'essential facilities' doctrine, the technology protected by a patent in order to make their products to be compatible with the SEP and be able to provide to their customers a compatible product or service.

This essentiality means, according to ETSI IPR policy¹¹⁶ that by taking into consideration the usual technical practices and the available at the time of the standardisation state of art, it is impossible to manufacture, sell, lease use or operate equipment or methods which are in compliance with a standard without having an IPR

¹¹⁴ Commission, 'ICT Standardisation Priorities for the Digital Single Market' (Communication) COM (2016) 176 final, pp 6-9.

¹¹⁵ C Tapia, *Industrial Property Rights, Technical Standards and Licensing Practices (FRAND) in the Telecommunications Industry* (2010 Heymann), p 10.

¹¹⁶ ETSI's Directives, Rules of Procedure (2018) available on https://portal.etsi.org/directives/38_directives_feb_2018.pdf accessed June 14 2018.

infringement.¹¹⁷ In other words, standard-essential patents are patents that must be licensed out in order to implement a given technical standard.¹¹⁸

The IPR owner can license it for free or as it is often the case - in exchange of royalties. There might be the case that both negotiating parties have SEPs, which can lead to a cross-licensing.¹¹⁹ However, the owner of a SEP can misuse his position (just like in the cases of ‘essential facilities’) when negotiating with a party that does not have an essential IP or it is just not that fundamental that puts the party into a weaker position. Then, the SEP holder can abuse the dominance acquired and decide to exclude third parties or sets unreasonable and excessive royalty rates and thus benefit from his strong bargaining position. The result of such conduct is a ‘hold-up’ of the successful implementation of the standard due to becoming hard to afford for the average licensee and inevitable for the implementer to infringe the patent. Another issue to be considered is the royalty stacking, which is present when complementary but somehow essential products are owned by various people/ undertakings and are priced independently, which results in a higher price when aggregated than the one that would have been estimated if the owner was just one.¹²⁰ The complexity of SEP licensing is due to the fact the technology devices incorporate numerous standards, which in response include loads of SEPs (up to thousands) and if each of those patents is truly essential, and each one is owed licensing fees or can subject a standard adopter to damages, there is a risk of having double-marginalisation or royalty stacking.¹²¹ There is also the case that the licensor refuses to license at all or the counterparty does not accept the patentee’s conditions or simply cannot afford to accept them. It seems as a dead end while the standardisation process is on hold but simultaneously technology is rapidly advancing. Again there is unwilling licensing, once a patent is declared as essential, but how can

¹¹⁷ *Ibid*, Annex 6, s 15.6.

¹¹⁸ International Telecommunications Union, *Understanding patents, competition and standardization in an interconnected world* (2014) p 46.

¹¹⁹ A cross-licensing agreement is a contract where the parties agree to grant each other the rights to exploit certain intellectual property rights owned by them, usually meaning that there will be no royalty payment for the use of these patents. The typical case to resort to it is in the interest to prevent legal actions or as a way of dispute settlement due to an infringement.

¹²⁰ Cournot effects, see more <http://ec.europa.eu/dgs/competition/economist/delamano1.pdf> accessed June 14 2018.

¹²¹ A Lemley and T Simcoe, ‘How Essential Are Standard-Essential Patents?’ (Working paper Stanford Public Law 2018) p 6.

both parties be treated fairly? Is the patent holder in a dominant position just like with the ‘essential facilities’ cases and liable under Art. 102 TFEU?

7. Orange Book Standard¹²²

Let’s get back to Art. 102 TFEU. This case, which later evolved into a common approach adopted by the courts, concerned the Dutch company Philips holding a *de facto* patent that was proclaimed to be essential to CDRs¹²³ standardisation while all manufacturers of said products were required to comply with the standardisation requirements listed in the so-called ‘Orange Book’ and consequently use Phillips’ patent.¹²⁴ The case brought before the German courts was about an injunction sought by the Dutch electronics giant against several undertakings that did not obtain a licensing agreement for using Philips’ SEP. On the other hand, the counterparties argued that Philips was actually in breach of Art. 102 TFEU due to abuse of dominance and was obstructing their access to the market.

The Court’s ruling included the consideration that licensing a SEP is a sole relevant market¹²⁵ and thus Philips has a monopoly on this market since it is the only one being able to supply it. Of course, it was accepted that it would constitute an abuse of dominance only when a patent holder seeks injunctions due to infringement and:

- (i) there is an unconditional bounding offer by the potential licensee to enter into a licensing agreement, which if rejected by the licensor (the patentee), and it would obstruct the licensee or violate the prohibition of discrimination¹²⁶; and
- (ii) if the licensee is already using the patent’s subject matter, it would also need to comply with the licensing obligation, in particular by paying royalties.¹²⁷

¹²² German Federal Court of Justice, Case KZR 39/06, Orange book standard [2009], English translation.

¹²³ Recordable Compact Discs.

¹²⁴ David Kristing, ‘Standard-Essential Patents - Balancing the Interests of Intellectual Property and Competition under EU law’ (Master thesis in European Law, Stockholm University) p 26.

¹²⁵ The relevant market includes a geographic and a product market and shall be defined on the basis of substitutability from the consumers’ perspective, see *United Brands* paras 10, 22.

¹²⁶ German Federal Court of Justice, Case KZR 39/06, Orange book standard [2009], English translation, para 29.

¹²⁷ *Ibid.*

We can clearly distinguish the strong protection of the German judicial system over patent holders creating a high burden of proof for the alleged infringers and which has been under great criticism over the years. Germany is well-known as patentee-friendly jurisdiction and thus widely chosen as forum for IP disputes and although accepting the dominant position of Philips in this case, the Court rejected the position of a true licensee of the defendant due to not paying the deserving fees and ordered the payment of consequent damages.¹²⁸ A crucial point in the decision is the recognition of a SEP constituting of a separate relevant market which confirms the view that Philips as a SEP holder was indeed able to abuse its dominance and can easily affect the market unilaterally and individually. Nonetheless, Philips was not under any obligation such as FRAND and we will see how *Huawei*¹²⁹ judgement ripped up this well established German practice with the hope of overruling it for good.¹³⁰

V. Fair, Reasonable And Non-Discriminatory¹³¹

The answer to the problems of holding-up and to the abusive behaviour of the owner of a standard essential patent is the commitment, that most SSOs require, to license such intellectual property rights under *fair, reasonable and non-discriminatory* terms. Its role is to find the balance between the exclusive rights of an IP owner and the interests of the implementers of the standard and to avoid foreclosing competition by setting unfair licensing conditions. Now said terms are even included in the Horizontal Guidelines, obliging¹³² Standard Setting Organisations to include in their IPR policies that all

¹²⁸ Sophie Walmer, 'German Federal Court of Justice takes a stand in Orange Book Standard McDermott Will & Emery' (2009) <https://www.lexology.com/library/detail.aspx?g=1991c3c4-51a2-4c3c-a738-8eda412b353e> accessed June 16 2018.

¹²⁹ Case C-170/13, *Huawei Technologies Co. Ltd v ZTE Corp. and ZTE Deutschland GmbH* [2015].

¹³⁰ See more James Killick, 'ECJ rips up Orange Book! New standards in Europe for SEP injunctions' (*Kluwer Competition Law Blog* 4 September 2015) <http://competitionlawblog.kluwercompetitionlaw.com/2015/09/04/ecj-rips-up-orange-book-new-standards-in-europe-for-sep-injunctions/> accessed 16 June 2018.

¹³¹ Also referred as RAND in the US, however, for the purposes of this paper FRAND terms within the EU will be relevant.

¹³² Note that the guidelines are soft law and do not have mandatory character

holders of intellectual property rights, with SEPs, commit themselves to license these patents fairly, reasonably and non-discriminatorily.¹³³

The exact definition and limitation to these terms is still absent, unfortunately. Neither the courts, nor the standard-setting organisations have come up with a precise delimitation of the FRAND terms and I would like to examine the reasoning behind their abstaining and also how far the FRAND commitment has evolved through the years.

Although created by the SSOs in the 1990s, the term became mostly ‘popular’ in the *Microsoft*¹³⁴ case (see Chapter III, Point 2.2.) when the investigation focused on whether Microsoft provided access to their ‘essential facilities’ on terms that are (i) fair, (ii) reasonable and (iii) non-discriminatory. However, no further elaboration on the specifics of the terms were exposed and only further jurisprudence could help in filling the missing pieces.

1. Prerequisites of the FRAND commitment

1.1. Bona fide negotiations

First of all, FRAND terms should be discussed within the pre contractual relationship of the parties. This shall mean that the IP right owner is ready to enter into negotiations in good faith with any party that is ready to put the standard into implementation and sign a license agreement therefore. As discussed already, the aim is to prevent situations of unreasonable ‘refusals to license’ which would be the result of a corrupted agreement and thus it is precise that ‘the concrete terms or range of terms that are deemed to be

¹³³ Commission, ‘Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements’ (Communication) COM (2011), para 285.

¹³⁴ Case T-201/04 *Microsoft Corp. v Commission of the European Communities* [2007] ECR II-03601, para 193 reads as follows: ‘Microsoft shall [...] make the interoperability information available to any undertaking having an interest in developing and distributing work group server operating system products and shall, on **reasonable and non-discriminatory terms** allow the use of the interoperability information [...]’ (bolding added). See also *ibid* paras 48 (a), 48 (c) , 808-11, 1231, 1261.

reasonable and non-discriminatory’ to be clear to both the licensor and the licensee.¹³⁵ It also means that each consideration of either party shall be considered to be acceptable in the hypothetical situation of *ex-ante* bilateral negotiations (see next point - 1.2.).

1.2. Fair and reasonable

If we adopt the most simple way to try to understand a meaning of a word, we can look into a dictionary and find out that ‘fair’ means: ‘*treating someone in a way that is right or reasonable, or treating a group of people equally and not allowing personal opinions to influence your judgment*’.¹³⁶

It is not uncommon that ‘fair’ and ‘reasonable’ are used interchangeably and as it is in the case of the United States’ RAND concept where no distinguishment is made. Nonetheless, the EU did not separate the two terms uncoincidentally but because they shall not be referred as synonyms.

Within the FRAND commitment, the terms are not that straightforward nor clear as a dictionary explanation and ‘fairness’ would be applied to estimating what the two opposite parties are getting from the negotiations and their equal consideration¹³⁷, while the applying of ‘reasonable’¹³⁸ licensing conditions refers more to the estimation of the royalty rates and setting them as some authors argue at ‘non-irrational’ levels.

Being ‘reasonable’, from the point of view of the licensor (the SEP owner), means that the royalties shall be priced at the same amount as the ones that would have been charged before even adopting a standard.¹³⁹ On the other hand, reasonableness for the

¹³⁵ Daniel G. Swanson & William J. Baumol, *Reasonable and Nondiscriminatory (RAND) Royalties, Standards Selection, and Control of Market Power*, (2005) 73 ANTITRUST L. J. 1, supra note 2.

¹³⁶ Cambridge online dictionary: <https://dictionary.cambridge.org/dictionary/english/fair> accessed June 17 2018.

¹³⁷ C Tapia, *Industrial Property Rights, Technical Standards and Licensing Practices (FRAND) in the Telecommunications Industry* (2010 Heymann), p 16.

¹³⁸ According to Cambridge online dictionary, being reasonable means: ‘based on or using good judgment and therefore fair and practical’ <https://dictionary.cambridge.org/dictionary/english/reasonable> accessed June 17 2018.

¹³⁹ Meaning on an *ex-ante* basis.

licensee (the manufacturer or user of the patented technology) entails for him to being able to pay the royalties and still make a profit as a result of the making and sale of the patented product¹⁴⁰, meaning being able to maintain and conduct a profitable business while the licensor receives a fair compensation for the limitation of his/ her rights.

On the contrary, Shapiro and Lemley argue that a royalty to be reasonable shall be estimated on the basis of arms-length negotiations which would take place at the moment the Standard Setting Organisation sets the standard.¹⁴¹ I could not support their opinion¹⁴², however, because once a patent is declared essential it inevitably increases its value and can result in an *ex-post* opportunism. This would mean that the SEP owner would find himself in a more powerful and favourable position than the standard-implementer and thus would be able to extract in an unfair manner more beneficial licensing terms just as the cases of the ‘essential facilities’ doctrine. This facilitates extortion and unilateral conducts similar to the dominant undertakings’ abuse of their position which can result not only in restricting competition but harming the whole technology industry by strengthening the grounds of monopolisation.

The theory of arm-length negotiations is believed to be set upon the fact that when a SSO chooses the technologies essential to the standard, no alternative ones were existing that would have been chosen instead.¹⁴³ Another argument in defense of the *ex-post* opportunism is that it might never occur if the conditions offered after the standardisation are similar to the *ex-ante* ones, it would basically mean that the owner of the SEP is indeed in virtue with the FRAND obligation.¹⁴⁴ It seems more fair and reasonable that a patentee receives a remuneration on a basis of effective competition

¹⁴⁰ Panduit Corp. v. Stahl Bros. Fibre Works, Inc., 575 F.2d 1152 (6th Cir. 1978).

¹⁴¹ Mark A. Lemley & Carl Shapiro, ‘A Simple Approach To Setting Reasonable Royalties For Standard-Essential Patents’ (2013) BTLJ 1136, p 1147

¹⁴² Note that this is according to the US approach and US patent law considerations.

¹⁴³ David J. Teece & Edward F. Sherry, Standards Setting and Antitrust (2003) 87 MINN. L. REV. 1913, supra note 11. See also Mark Patterson, ‘Antitrust and the Costs of Standard-Setting: A Commentary on Teece & (and) Sherry Symposium: The Interface between Intellectual Property Law and Antitrust Law: Commentary’ (Faculty of Law Scholarship, Fordham Law School 2002).

¹⁴⁴ Damien Geradin & Miguel Rato, ‘Can Standard-Setting lead to Exploitative Abuse? A Dissonant View on Patent Hold-Up, Royalty Stacking and the Meaning of FRAND’ (2006), p 26.

and not on the rate that his competitors are willing to pay after being locked into the standard.¹⁴⁵

1.3. Non-discriminatory

It shall not be perceived as that all royalties need to be exactly the same for all licensees but rather as treating on the same terms the licensees that are in a similar position. This means that a licensor can ask for different royalties depending what the other party can offer in exchange as long as it is justified. Justification might be derived from the licensee guaranteeing a certain manufacturing volume in exchange of a lower rate to pay or concessions in the cases of organisations such as universities or NGOs. Asking for higher royalty payments or denial to license can be justified if the other party refuses to provide its patent in return¹⁴⁶ or setting unreasonable demands. Basically, discrimination is permitted but only when proportionate to the other party's actions.

Another theory argues that if an undertaking that possesses a SEP and it is also competing in the downstream market with other adopters of the concerned standard, it shall treat them in the same manner as it treats itself and no less favourably whatsoever¹⁴⁷, meaning that charging for the usage of the intellectual property right must be done on the same rates as it charges itself¹⁴⁸. Discriminatory behaviour is rather difficult to detect, however, given that FRAND is not one-size-fits-all, solutions can differ from sector to sector and depending on the business models in question.¹⁴⁹

¹⁴⁵ Mark A. Lemley & Carl Shapiro, 'A Simple Approach To Setting Reasonable Royalties For Standard-Essential Patents' (2013) BTLJ 1136, p 1140.

¹⁴⁶ C Tapia, *Industrial Property Rights, Technical Standards and Licensing Practices (FRAND) in the Telecommunications Industry* (2010 Heymann), p 16.

¹⁴⁷ Daniel G. Swanson & William J. Baumol, *Reasonable and Nondiscriminatory (RAND) Royalties, Standards Selection, and Control of Market Power*, (2005) 73 ANTITRUST L. J. 1.

¹⁴⁸ *Ibid*, supra note 36, p 11.

¹⁴⁹ Commission, 'Setting out the EU approach to Standard Essential Patents' (Communication) COM (2017) 712 final, p 7.

2. FRAND commitments under case law

2.1. Motorola & Samsung cases

The EU Commission had identical approaches in the two cases, investigating them simultaneously and even releasing the two decisions on the same day and this is why I am going to study them in conjunction and without providing any individual information separately.¹⁵⁰

Both *Samsung*¹⁵¹ and *Motorola*¹⁵² were about abuse of dominant positions in terms of standard essential patents within the ICT industry, most specifically in the telecommunications sector. Both undertakings had brought actions in several courts throughout the EU against Apple¹⁵³ in order to obtain interim injunctions due to infringements on the part of the defendant of their patents that had been declared essential to certain standards (GPRS and UMTS). Both Motorola and Samsung, however, were under the prior given commitment of FRAND before ETSI thus raising competitive concerns about their conduct and therefore investigated by the EU Commission on whether seeking such injunctive relief shall be deemed compatible with Art. 102 TFEU.¹⁵⁴

The Commission evaluated the licensing of the GPRS standard¹⁵⁵ as a separate relevant product market as no viable substitutability was existing for the implementer of the standard.¹⁵⁶ In terms of the position of dominance it was rejected that the possession of a patent that is essential to a standard constitutes dominance *per se* but rather added criteria to be determined in order to evaluate it as such. Pursuant to the EU

¹⁵⁰ See more Marco Lo Bue ‘The Commission Decisions On Samsung And Motorola: The Antitrust Effects Of Licensing ‘SEPS’’ (2015) 2 IAR 198.

¹⁵¹ *Samsung - Enforcement of UMTS standard essential patents* (Case AT.39939), Commission Decision [2014] OJ C350/6.

¹⁵² *Motorola - enforcement of GPRS standard essential patents* (Case AT.39985), Commission Decision [2014] OJ C344/6.

¹⁵³ Apple Inc.

¹⁵⁴ *Samsung* para 3 and *Motorola* paras 2-3.

¹⁵⁵ Taking *Motorola* as a reference of the two cases for the sake of brevity and clarity.

¹⁵⁶ *Motorola* para 213.

Commission, despite of having a dominant position present, there should also be the factor of (i) indispensability of the said standard, and (ii) locking-in of the standard in the industry.¹⁵⁷

Both prerequisites were fulfilled by Samsung and Motorola due to the facts that implementers were broadly adopting both GPRS and UMTS standards, making them indispensable for the manufacturers and the already made investments locked them in the standards.¹⁵⁸ Nonetheless, Motorola was found in breach of Art.102 TFEU (without being fined though) whilst Samsung offered commitments¹⁵⁹ not to seek injunctions against potential licensees in terms of its SEPs in the mobile devices sector in the following five-year-term on the condition that a specific FRAND framework is accepted. This framework included:

- (i) a twelve-month negotiation period¹⁶⁰; and
- (ii) determination of FRAND by a third party (an arbitrator or a court) in case of no agreement concluded.¹⁶¹

The Commission further elaborated on the issue that the behaviour of a SEP owner that seeks injunctions would not be in breach of Art. 102 TFEU in general, however, in the case of an existent FRAND commitment becomes rather extraordinary. The anti-competitive effects included the facts that both Motorola and Samsung were (i) able to exclude their competitor Apple from the market for mobile devices, and (ii) making Apple accept non-favourable licensing conditions which would not have been accepted in the absence of an action for injunctive relief.¹⁶²

Here, contrary to the *Orange Book Standard*, we witness a rather friendly approach towards the licensee and not towards the patentee as in Germany. In general, once the potential licensee shows willingness to enter into an agreement, the right to injunction

¹⁵⁷ *Ibid* para 226.

¹⁵⁸ *Ibid* paras 231-36.

¹⁵⁹ Binding under Art.9 of Council Regulation (EC) No 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty [2003] OJ L1/1.

¹⁶⁰ *Samsung* para 78 (a).

¹⁶¹ *Ibid* para 78 (b).

¹⁶² *Ibid* para 62.

of the patent owner is precluded. This, unfortunately, creates an environment that is quite easy to be abused by the competitors by exploiting their strengthened position in the negotiation process or by unreasonably hampering it while in the meantime making use of the patented technology without being obliged to pay royalties.¹⁶³ ¹⁶⁴ It presumes a quite easy condition to be fulfilled by the competitors while the patentees are left with no other choice but entering into possibly unfair licensing agreements and a lack of injunctive relief for their infringed rights.

2.2. *Huawei*¹⁶⁵

This notable case involved two Chinese tech companies - Huawei and ZTE Corp. Huawei was a holder of an essential to the LTE¹⁶⁶ standard patent while ZTE Corp., also operating within the same industry, marketed products that included a connected to the standard software.

Huawei had given a commitment to ETSI that it would license the patent under fair, reasonable and non-discriminatory terms but after failing to reach such agreement with ZTE, Huawei sought an injunctive relief before the Dusseldorf courts due to the alleged infringement of the SEP by ZTE. The defendant, on the other hand, argued that Huawei was abusing its dominant position under Art. 102 TFEU, in addition to which, they emphasized on their willingness to negotiate such terms. These competitive concerns led to the referral to the CJEU for a preliminary ruling on the issue of whether and in what circumstances a SEP holder is abusing his dominant position when bringing actions of infringement against implementers of said standard.¹⁶⁷

¹⁶³ David Kristing, 'Standard-Essential Patents - Balancing the Interests of Intellectual Property and Competition under EU law' (Master thesis in European Law, Stockholm University) p 26.

¹⁶⁴ Ibid Indeed, in virtue with these considerations, such defense was presented by Motorola arguing that Apple was not willing to make an offer on FRAND terms for the technology it had been using. See also *Motorola* para 430.

¹⁶⁵ Case C-170/13 *Huawei Technologies Co. Ltd v ZTE Corp. and ZTE Deutschland GmbH* [2015] OJ C302/2.

¹⁶⁶ Long Term Evolution.

¹⁶⁷ *Huawei* para 39.

The Court of Justice of the European Union stressed on the fact that a ‘middle path’¹⁶⁸ had to be struck between the legitimate interests of the IP proprietor and the licensee, while at the same time maintaining free competition, when estimating whether an abuse has taken place.¹⁶⁹ As already discussed in details above¹⁷⁰, Art. 102 TFEU can be violated by an intellectual property owner in ‘exceptional circumstances’ only¹⁷¹, without constituting a breach *per se*. This case was dissimilar to previous ones, though, because Huawei had committed to the FRAND obligation and had an essential patent to a standard that was developed by a SSO (here ETSI).¹⁷² This patent enabled the holder to exclude other market players that wanted to manufacture products in compliance with the LTE standard due to indispensability of the IPR and the non-existence of alternative methods.¹⁷³ By committing to FRAND, Huawei created legitimate expectations that it was going to and was ready to grant licenses of the SEP to its competitors and a refusal to do so could indeed be considered a breach of Art. 102 TFEU.¹⁷⁴

The CJEU shed some light on the topic by providing a criteria on the basis of which the abuse can be prevented and injunctions can be sought, while balancing the clash between intellectual property rights and effective competition.

The court emphasized on the importance of safeguarding the IP owners’ rights by protecting their fundamental rights to a free trial and an effective remedy laid in Art. 17, para 2 of the EU Charter of Fundamental Rights¹⁷⁵, rejecting the possibility to deprive them from the rights to have recourse to legal proceedings to ensure effective enforcement of their exclusive rights.¹⁷⁶

The CJEU presented the following cumulative conditions:

¹⁶⁸ Case C-170/13 *Huawei Technologies Co. Ltd v ZTE Corp. and ZTE Deutschland GmbH* [2015] OJ C302/2, Opinion of AG Wathelet, para 52.

¹⁶⁹ *Huawei* para 37.

¹⁷⁰ See Chapter III.

¹⁷¹ See Chapter II.

¹⁷² In the *Orange Book Standard* was a *de facto* standardisation and no FRAND commitment was present.

¹⁷³ *Huawei* paras 48-50.

¹⁷⁴ *Ibid* para 53.

¹⁷⁵ *Ibid* paras 57-8.

¹⁷⁶ *Ibid* para 58.

- (i) the owner of the SEP shall notice or have a consultation *a priori* with the infringer about said violation of his IP rights;^{177 178}
- (ii) after an expressed willingness to enter into a licensing agreement by the licensee, the SEP holder shall provide in return ‘*a specific, written offer for a licence on FRAND terms*’¹⁷⁹ in addition to identifying the amount of the royalties and how they shall be calculated^{180 181};
- (iii) a ‘*diligent*’¹⁸² response to the given offer from the alleged infringer and in case of declining - a prompt and written counter offer in accordance with FRAND must be presented to the licensor¹⁸³; and
- (iv) if prior to a conclusion of an agreement, there had been a use of the SEP by the infringer and his counter offer got rejected, he shall ‘provide appropriate security’¹⁸⁴ calculated from the moment of the rejection, including, among others, ‘number of the past acts of use of the SEP’ and the ability of rendering accounts.¹⁸⁵

Last, but not least, the question of an implementer to be able to challenge the validity of the patent was answered. Contrary to the *Orange Book Standard*, that required an ‘unconditional offer’ to license¹⁸⁶, in this case the standard implementer cannot be

¹⁷⁷ *Ibid* para 60.

¹⁷⁸ *Ibid* para 62: It is due to the large number of patents within a standard and the possibility for the infringer to not be aware of using a SEP.

¹⁷⁹ *Ibid* para 63.

¹⁸⁰ *Ibid*.

¹⁸¹ This requirement stems from the need to comply with the principle of non-discrimination. See also *Huawei* para 64.

¹⁸² Pursuant to the CJEU’s ruling in *Huawei* in para 65, this shall mean: ‘in accordance with recognised commercial practices in the field 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’.

¹⁸³ *Ibid* para 66.

¹⁸⁴ *Ibid* para 67, according to the CJEU, this shall mean ‘*in accordance with recognised commercial practices in the field, for example by providing a bank guarantee or by placing the amounts necessary on deposit*’.

¹⁸⁵ *Ibid in fine*.

¹⁸⁶ ‘The EU Court of Justice Judgment in *Huawei v ZTE* – important confirmation of practical steps to be taken by Standard Essential Patent holders before seeking injunctions’ (Norton Rose Fullbright, August 2015) <http://www.nortonrosefulbright.com/knowledge/publications/131306/the-eu-court-of-justice-judgment-in-huawei-v-zte-important-confirmation-of-practical-steps-to-be-taken-by-st> accessed 19 June 2018.

criticized for attacking both the validity and the essentiality of the patent, or for doing so in the future.¹⁸⁷

This long-awaited decision obviously made a great impact on clarifying the issue between IP exclusive rights and competitive concerns in regards with abusive behaviour of a dominant undertaking. The CJEU adopted a similar approach to the one of the Commission in *Motorola* and *Samsung*, but with the hope to strike a fair and clear balance and reach harmonisation of FRAND through Member States. Of course, complete harmonisation is closer with the pending launching of the Unified Patent Court¹⁸⁸ but until then the decision applicable in all Member States is enough.

The CJEU's decision proposes to the SEP owner to exhaust all ways of pacifically negotiating and resolving the issue at hand before resorting to court proceedings and encourages, although tacitly, the resorting to alternative dispute resolution mechanisms. Personally, I find this decision rather satisfying and reasonable on the grounds that having in mind that it is often the case of automatically granted injunctions when an infringement is found, even in the cases of patent trolls¹⁸⁹ and non-practicing entities, it established a firm ground where after founding himself in a deadlock, the patentee had nothing more to do but to negotiate reasonable terms.

3. How are reasonable royalties estimated?

3.1. General remarks

It is essential to mention that the lack of a universal formula to estimate the royalties' limits is rather justifiable than surprising. Patents vary immensely and cannot be placed on the same footing having in mind that every industry and even every sector has its peculiarities and factors to be taken into account. A frequent question is why the competition authorities, for example, won't create a formula as to set the royalties that

¹⁸⁷ *Huawei* para 69.

¹⁸⁸ Agreement on a Unified Patent Court [2013] OJ C175/1.

¹⁸⁹ The so-called trolls are usually no creators of intellectual property and their aim is to find, buy, license and litigate patents without practicing the same. The term was supposedly created by Peter Detking during a lawsuit regarding Intel.

would work in every case of FRAND interpretation. The answer is simple though - because this is not included in their competences and they cannot be acting as pricing authorities. What about the SSOs then? Is it in their power, should they do it? They could, indeed. The issue is elsewhere, according to Shapiro¹⁹⁰ this could result in a strategy to fix the prices and distort the competitiveness in the market so they would like to abstain from such issues. Courts, on the other side, have recently come into play by determining FRAND licensing rates by themselves in two groundbreaking cases¹⁹¹, adopting different approaches that are yet to be seen if going to work well.

3.2. *Unwired Planet v. Huawei*¹⁹²

In 2014, a case was brought in the UK from Unwired Planet against Samsung, Huawei and Google regarding SEPs¹⁹³ infringements. After having settled with Google and Samsung, Unwired Planet proceeded with court hearings against Huawei regarding the competitive concerns raised and the FRAND licensing which ended with a 163-page-long decision of Mr Justice Birss. The decision includes his findings on FRAND in general and the statement that FRAND terms can be uniform as well as royalty rates for every given situation, which could and would be set by the UK courts. A very controversial finding of Mr Justice Birss is about that there is no need to enforce competition law in regards with FRAND commitment due to its contractual nature and the following enforceability of such.¹⁹⁴ He also rejects the notion that licensing terms that are not in compliance with FRAND have anti-competitive effect *per se*.¹⁹⁵

¹⁹⁰ C Shapiro, 'Navigating the Patent Thicket: Cross Licenses, Patent Pools and Standard Setting' in A Jaffe et al. (eds), *Innovation Policy and the Economy* (MIT Press 2001) p. 128.

¹⁹¹ One of which is a US case that won't be subject to analysis. *TCL Communication Technology Holdings Ltd v Telefonaktiebolaget LM Ericsson*, Nos 8:14-CV-00341 JVS-DFMx, 2:15-CV-02370 JVS-DFMx (CD Cal Sept 21, 2017).

¹⁹² *Unwired Planet International Ltd v Huawei Technologies Co Ltd* [2017] EWHC 711 (Pat).

¹⁹³ Related to the mobile phone networks (2G, 3G and 4G).

¹⁹⁴ Rachel Catwright, 'Unwired Planet v Huawei FRAND judgement' (*Kluwer Patent Blog*, 13 April 2017) <http://patentblog.kluweriplaw.com/2017/04/13/unwired-planet-v-huawei-frand-judgment/> accessed 17 June 2018.

¹⁹⁵ *Unwired Planet* [535].

The judge exposed his strategy for royalties' estimation by applying first a 'benchmark rate', that does not vary depending on the licensee¹⁹⁶ but on the IP holder's portfolio of standard essential patents, which can be adjusted as appropriate. This helps in determining how valuable a portfolio is and in case of excessive pricing in comparison with the value estimated, the terms indeed would be unfair and unreasonable. He also proposes to count the patents in case of large patent portfolios as the most practical solution¹⁹⁷ and even declaring counting as 'inevitable'.¹⁹⁸

Judge Birss pointed out to two methods to calculate the royalties, the first of which is the 'top-down' method. It includes the aggregate royalty rate, which means the total due for all SEPs within a standard.¹⁹⁹ According to the court's findings, once a certain number is reached, then it can be split proportionally between all licensors based on their shares of the total value of the SEP portfolio.²⁰⁰ This approach was rejected because this could not serve as an appropriate benchmark rate setting, declaring such statements to be '*self-serving*'²⁰¹, and only using it as a possible cross-check.²⁰² Thus, Unwired Planet's SEPs portfolio was assessed by the second method proposed by themselves – by considering comparable licenses, that was approved and later used by Mr Justice Birss. It comprises of comparing agreements for licensing that had already been concluded, the most significant of which are the ones related to the exact same portfolio.²⁰³ The judge consequently provided tables with his calculations determining the FRAND rates providing an extraordinary and quite dubious for some opinion.²⁰⁴

¹⁹⁶ Pointing out to the principle of non-discrimination *ibid* [177].

¹⁹⁷ *Ibid* [182].

¹⁹⁸ *Ibid* [806 (6)].

¹⁹⁹ S Middlemiss and L Balfour, 'Patent licensing and FRAND: setting the rate and terms' (*Slaughter and May*, September 2017) p 3. <https://www.slaughterandmay.com/media/2536535/unwired-planet-briefing-part-2.pdf> accessed 17 June 2018.

²⁰⁰ *Unwired Planet* [178].

²⁰¹ *Ibid* [269].

²⁰² P G Picht, 'FRAND determination in TCL v. Ericsson and Unwired Planet v. Huawei: Same same but different?' (2018) MPIIC RP 18-07, p 7.

²⁰³ *Unwired Planet* [179].

²⁰⁴ *Ibid* [770]-[71].

Lastly, Judge Birss rejected the claim for the abuse of dominance by Unwired Planet's prematurely issuing proceedings, seeking an injunctive relief²⁰⁵, differentiating the case from *Huawei v ZTE*, on the reasoning that the defense for an injunction claim does not need to be upon Art.102 TFEU.²⁰⁶

The conclusion derived from this decision is that if the courts are going to determine the royalties, then the parties to a FRAND dispute need to have a very economically-oriented and technical information to back up their arguments. Surely, the English court has adopted a unilateral approach setting a new path to be followed, turning its back to the EU case law, which might be or might be not connected to the present situation of the UK. However, Judge Birss has indeed resolved some issues that waited to be clarified for quite some time now. There is no firm answer whether he was right or wrong, we just have to wait and see if the EU Member States are going to adopt it and what the Commission's reaction will be.

VI. ADR for FRAND disputes

A much discussed topic nowadays are the efficiencies of the alternative dispute resolution when one speaks about IP and FRAND commitments. Taking arbitration, as an example, as the most preferred one, and then compare it to courts, it seems as gaining more and more popularity and positive perception.

As already discussed, it is often the case that standards are internationally recognised technical requirements and are being used world-wide. Consequently, licensing on FRAND terms is international, including undertakings from different parts of the world with international SEPs portfolios. When a dispute arises such as the ones shown above it is also international, but court jurisdiction remains national. The territoriality principle of the courts is an excellent prerequisite of forum shopping thus bringing actions in the

²⁰⁵ Rachel Catwright, 'Unwired Planet v Huawei FRAND judgement' (*Kluwer Patent Blog*, 13 April 2017) <http://patentblog.kluweriplaw.com/2017/04/13/unwired-planet-v-huawei-frand-judgment/> accessed 17 June 2018.

²⁰⁶ *Unwired Planet* [744 viii].

most favourable seat possible, such as Germany very often, while arbitration provides the free choice of law which can be agreed among the parties and then applied. The greatest advantage maybe of the ADR is that experts, chosen by the parties, from the relevant field are going to decide on the matter, while courts cannot offer such profound technology expertise, whatsoever. It is no secret that arbitration can be costly, but having in mind that arbitration can be ‘tailored’ to one’s preferences, it can be even cost-effective. In addition, since IPRs are concerned arbitration is most suitable due to its confidential award and proceedings. As far as the duration is concerned, both can be time-consuming despite ADR being regarded as a more rapid solution.²⁰⁷

According to Lemley and Shapiro²⁰⁸, there is a simple resolution to long debated royalties in an arbitration procedure - the ‘baseball arbitration’²⁰⁹, which should be compulsory in FRAND debates. Their arguments include that using this procedure, also called ‘final offer arbitration’, would encourage the parties to submit much more reasonable offers in order to be selected as the winning one²¹⁰ because the parties are aware that the arbitrator is not going to compromise and making an unfair proposal would be likely to lose strategy.

The EU Commission also promotes the potential benefits of arbitration and mediation in the last year’s communication regarding SEPs.²¹¹ It stresses on the swiftness and cost-effectiveness of the procedures, while noting that ADR is still underexploited.²¹² I can only strongly support this vision in light with all the chaos emerged from the loads of patent litigation in the recent years and the lack of legal certainty. Arbitration is the more effective way to resolve such a specific dispute as the ones including SEPs and

²⁰⁷ More profound advice can be found in the WIPO, ‘Guidance on WIPO FRAND Alternative Dispute Resolution (ADR)’ (2017) *see*

<http://www.wipo.int/export/sites/www/amc/en/docs/wipofrandadrguidance.pdf> accessed 21 June 2018

²⁰⁸ M Lemley and C Shapiro, ‘A Simple Approach to Setting Reasonable Royalties for Standard-Essential Patents’ (2013) 28 BERKELEY TECH. L.J. 1135, p 1138.

²⁰⁹ This approach is used in the US baseball league when a disagreement arises in terms of the salaries of the players and it consists of an arbitrator to choose one of the two final offers proposed by the parties concerned. *See more* J G Sidak, ‘Mandating Final-Offer Arbitration Of Frand Royalties For Standard-Essential Patents’ (2014) 18 STAN. TECH. L. REV. 1.

²¹⁰ V Mascarenhas, ‘Using ‘Baseball Arbitration’ to Resolve FRAND Disputes’ (*Corporate Counsel*, 11 February 2015) p 2.

²¹¹ Commission, ‘Setting out the EU approach to Standard Essential Patents’ (Communication) COM (2017) 712 final.

²¹² *Ibid.*

FRAND and I could not agree with Mr Justice Birss that there is just one FRAND. There are hundreds of thousands FRAND, just as many SEPs we can identify.

Conclusion

This thesis provided an analysis of two very close-related topics that are of great importance in the technology-driven world we live in.

Firstly, it studied the development of the ‘essential facilities’ doctrine, whose aim is to maintain effective competition and prevent undertakings that enjoy larger market power to abuse their position of dominance. In regards with intellectual property rights, the doctrine tries to ensure savouring the exclusive rights of the owners of IPRs by applying the ‘exceptional circumstances test’ which, nonetheless, is still under further delimitation and clarification from the competent authorities. The resorting to the case law of the Court of Justice of the European Union and the EU Commission’s investigations, which this thesis provided by outlining the most notable ones, is a helpful tool of tracking the application of the doctrine, despite being controversial and changing through time and sometimes differently interpreted by national courts.

Then, standardisation was discussed in the context of licensing terms under the FRAND commitments which is the ultimate response to abusing dominant market position under art. 102 TFEU when standards are developed and SEPs are present. The indispensability conferred by a standard essential patent should be controlled by the courts and the competition authorities by making sure that SEPs are licensed on fair, reasonable and non-discriminatory terms. However, little has been contributed by them to elaborate on these terms and legal uncertainty occurs when trying to define FRAND-compliant contract conditions and even more when estimating royalty rates. Although, last year the British judge Mr Justice Birss did provide an estimating scheme in *Unwired Planet v Huawei*, it is still uncertain whether such approach would be followed by other Member States or approved by the EU Commission.

Lastly, the ADR mechanisms were proposed and promoted as the best and the most efficient instrument to settle the large number of litigation over patents in the past years. The arguments in support for such proposal are the self-tailoring of the procedure, the choice of law and mostly the choice of arbitrators that can provide a true expertise on the subject matter of patented technology and determine a reasonable royalty rate and terms that are fair and non-discriminatory for both sides. This, unfortunately, cannot be achieved very often in the state courts, at least not until patent law is harmonised in the EU and the Unified Patent Court starts working.

In my view, the pursuit of the balance of competition law and intellectual property rights should be debated more in the European Union, especially in the context of the Digital Single Market and making the 5G a reality. It is believed that until the end of the decade (the year of 2020), the 5G will generate 29 billion interconnected devices in the IoT sector which consequently would lead to a whole new wave of numerous patent licensing agreements and consequent potential legal disputes.²¹³ The EU's action plan is to support future competitiveness and be ahead in the global 5G race²¹⁴, however, is the EU ready to keep up and prevent the most likely to arise chaos resulted from patent litigation over 5G's patented technology?

We shall wait and see how the EU treats SEP holders post *Huawei* and if the pursuit of balancing their rights with the EU competition law would be successful. Because mine was not.

²¹³ See Commission, '5G for Europe: An Action Plan' (Communication) COM (2016) 588 final.

²¹⁴ *Ibid* p 4.

Abstract

The debate over striking the balance between competition and intellectual property law is not a new occurrence. On the contrary, it has been subject to discussions for quite some time now and this work attempts to follow its development and possible solution. The 'essential facilities' doctrine is rather in a static position at the moment due to the abundance of case law of the CJEU that has contributed to create a 'test' that serves as a legitimate tool when weighing the lawfulness of restricting the exclusive rights of the IPR owner. Art.102 TFEU is the primary EU source that protects the effective competition from the abusive behaviour of dominant undertakings and it is the legal basis, although not explicitly included, to seek granting of access to essential facilities. Standardisation, on the other hand, is a complicated and detailed process that also touches the IP field. In a world of digitalisation, the number of standards are increasing and so are the SEPs which can cause other problems such as patent thickets, hold-ups, blocking and royalty stacking. This is why SSOs make sure licensing must be done under Fair, Reasonable and Non-Discriminatory terms that, unfortunately, are still so unclear and uncertain that disputes are inevitable. In the times of the 'smartphone wars' the litigation seems as inadequate and obstructive because judges cannot always manage to resolve such technology specific disparities while ADR might be the effective solution when trying to balance between both parties legitimate interests.

Die Debatte über die Entdeckung der Balance zwischen wettbewerbs- und intellektuellen/geistigen Eigentumsrechten ist kein neuer Sachverhalt. Im Gegenteil. Sie wird und wurde schon seit längerem thematisiert und dieses Werk versucht, über die Entwicklung und mögliche Lösung zu berichten. Die 'essential facilities doctrine' ist momentan eher in einer feststehenden Position aufgrund des Fallrechtüberflusses des Gerichtshof der Europäischen Union, der einen Test/eine Kontrolle schafft, der/die als legitimes Mittel fungiert, wenn man die Rechtmäßigkeit der Einschränkung der exklusiven Rechte des IPR-Besitzers betrachtet. Artikel 102 der Vertrags über die Arbeitsweise der Europäischen Union ist die primäre EU-Quelle, die tatsächliche Konkurrenz vor der missbräuchlichen Verhaltensweise des beherrschenden

Unternehmen schützt, und ist die Rechtsgrundlage (wenn auch nicht explizit inbegriffen) zur Gewährung des Zugangs auf erforderlichen Unterlagen. Auf der anderen Seite ist Standardisierung ein komplizierter und ausführlicher Prozess, die auch das IP-Feld berührt. In einer Digitalisierungswelt nehmen sowohl die Anzahl der Normen als auch die SEPs zu, was andere Probleme wie Patendickicht, Stillstand, Sperren und hohe Mengen an Lizenzgebühren verursachen kann. Daher sollen die SSOs dafür sorgen, dass die Zulassung unter fairen, angemessenen und diskriminierungsfreien Bedingungen durchgeführt werden. Diese sind jedoch leider noch so unklar und unsicher, dass Auseinandersetzungen unvermeidlich sind. In Zeiten der ‘Smartphone-Kriege‘ scheint das Gerichtsverfahren genauso unzureichend und hinderlich, da Richter solch technisch spezifische Disparitäten nicht immer beschließen können, obwohl ADR die wirksame Lösung sein könnte, wenn man versucht, die berechtigten Interessen beider Parteien auszugleichen.

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