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**TRAINING ACADEMY**

**Beginner 2**

**Course 3**

STANDARDISATION  
TRAINING ACADEMY

Topic:

**INTRODUCTION TO  
STANDARD  
ESSENTIAL PATENTS  
(SEP)**

Author:

**Maryam Pourrahim, PhD candidate**

Tilburg Law and Economics Center (TIELC), the Netherlands, & Faculty  
of law of the University of Fribourg, Switzerland

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## Module Objectives

After completing this module, you should be able to:

1. understand that interplay between standards and patents is crucial for innovation, growth, and development;
2. explain why it is impossible to manufacture standard-compliant products, such as smartphones, without using technologies covered by SEPs;
3. understand that once a technical patent becomes essential, it is clear that the standard implementers would prefer to use it at no or a very low cost;
4. understand that once a technical patent becomes essential, SEP holders, who have invested heavily in their patent, seek a beneficial quid pro quo; and
5. explain that device interoperability is guaranteed when SEP holders provide standard implementers with licensing agreements concluded on fair, reasonable, and non-discriminatory terms (e.g. also known as a FRAND term).



## About The Author

### **Maryam Pourrahim**

Tilburg Law and Economics Center (TIELC), the Netherlands

University of Fribourg, Switzerland



Maryam Pourrahim, an attorney at law, is at the final stage of her doctoral research in a joint-PhD program at the University of Tilburg, the Netherlands, and the University of Fribourg, Switzerland. Interested in IP, competition law, standards and technologies, Maryam pursues her doctoral thesis on the Standard Essential Patents on which she has published some papers about patent pools, seeking injunctions, and arbitration on FRAND-related disputes. She completed an LLM in international and European commercial and economic law at the University of Lausanne, achieved her master's in international commercial law and her bachelor's in judiciary law from the University of Beheshti and Tehran respectively.



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## 1 INTRODUCTION

In today's world, the interplay between standards and patents is crucial for innovation, growth, and development. Assets of technical descriptions of product features, and standards vastly disseminate technologies amongst producers and users, simplify the production of end-use items, and ultimately enable interoperability. They themselves are not patentable, however, products manufactured in accordance with them, i.e., standards-compliant products, generally satisfy the statutory requirements for patent protection. By contrast, patents, as a strong form of monopoly, are to empower innovative R&D investors to gain an adequate return on their investment.

A standard essential patent, normally referred to as SEP in literature, protects technologies essential to a standard. As a matter of fact, it is impossible to manufacture standard-compliant products, such as smartphones, without using technologies covered by SEPs. SEPs should be distinguished from patents that are not essential to a standard (non-SEPs), such as design patents, which protect the design features of an invention. Companies can invent alternative solutions that do not infringe on a non-SEP (whereas they cannot design around a SEP). For example, the "slide to unlock" technology on your mobile phone is covered by a non-SEP. Most smartphone manufacturers were able to develop different technologies for unlocking a smartphone screen that does not infringe the "slide to unlock" patent.

Interoperability, as the cornerstone of the information and communications technology (ICT) sector, has an ever-growing role in the era of digital convergence, where the traditional boundaries between distinct computing and communications products are becoming increasingly blurred. More and more electronic products need to be able to "talk" to each other and interoperate. A modern laptop computer implements around 251 interoperability standards, including Wi-Fi and Bluetooth. Interoperability standards enable European Commission to put forward legislation to establish a common charging solution for all mobile phones, tablets, e-readers, earbuds, digital cameras, headphones and headsets, handheld videogame consoles, and portable speakers that are rechargeable via a wired cable to be equipped with a USB Type-C port, regardless of their manufacturer.

## 2 SEP IN TELECOM AND IOT

Many standards are based on patented technologies. The mobile telecommunications industry is driven by a heavy reliance on standardisation, which is made up of a great number of innovations protected by patents. 2G, 3G, 4G, 5G, and Wi-Fi networks rely on thousands of patented technologies to work. As an example, over 45,000 patents, 1000 of which are patent families,<sup>1</sup> are declared essential to 4G LTE. Nowadays, internet connectivity is present in various sectors of the economy and is a key for the development of the hyper-connected society, and the field of the Internet of Things (IoT). Therefore, licensing of ICT SEPs goes beyond

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<sup>1</sup> Patent families are groups of patents granted by different jurisdictions but about the same innovation.

smartphones, online shops, or even telecom services. New sectors including agriculture, waterworks, and automobile have already started to incorporate themselves into the digital environment which is mostly managed by ICT standards. This great number of newcomers joining a play whose original players have different corporate cultures and know-how can create new challenges for the SEP community.

### 3 SEP HOLDER VS. STANDARD IMPLEMENTER



Two opposite elements are combined in SEPs: a) the exclusivity of patents giving an exclusive right to their owners, and b) the public availability of standards, which is to guarantee their collective use and broad dissemination. The latter is so crucial that the European Commission has maintained that the technical specification that is not available to all potential users is not a standard.

To set industry-wide technical standards, companies work together in standard development organisations or SDOs, such as ISO, ETSI, and IEEE. During a standard developing process that takes over many years, companies choose one technology that is essential to the standard in question and exclude the others. This process may create a barrier for competing technologies in entering the market, and this is what competition law may regard as a problem.

Once a technical patent becomes essential, it is clear that the standard implementers would prefer to use it at no or at a very low cost. On the other side, the SEP holders, who have invested heavily in their patent, seek a beneficial quid pro quo. This is a usual conflict, which occurs between the private interests of the two businesses fighting for greater benefits, which may get extended further and becomes a matter of public concern and consumer welfare. This conflict is normally more serious in SEP, because essential patents are more valuable, more cited, and patented in multiple countries. They are more likely to be litigated than non-SEPs.

### 4 PARTIES' BEHAVIOURS




When a technology protected by patents is locked into a standard and investment towards the standard-compliant products development has been made, working around the technology, or switching over to an alternative may become far more difficult for the technology implementers. Subsequently, this restricts their choice to the following in case they do not want to take the liability of infringement:

-  manufacturers may ask the SEP holders for a license and, in return, pay royalty; or
-  they may design around the patent, i.e., inventing an interchangeable or alternative patent, and cut the production/sale of the infringing product.

With standards-compliant products, however, the decision is different as designing around the patent may be impossible or may make the product non-compliant with the standard.



The fact that the implementers/manufacturers are locked in the standardised technology in question may increase the SEP holders' bargaining power and may allow them the following abusive behaviours:

-  they may seek or threaten to seek an injunction to force manufacturers in order to accept unfair and unreasonable terms under licensing agreement. For example, they may bundle either their SEP(s) with other products or their licensing with other licensing and force the implementer to admit this under the injunction threat.
-  they may ask for a royalty excessively far from fair and reasonable and/or demand other burdensome licensing terms. This phenomenon, termed "patent hold-up", harms competitors, increase the price, and ultimately hampers innovation; or
-  they may fully refuse the manufacturers' access to the standard.

These actions, which may vary depending on the case circumstances, can be considered illegal under competition law, contract law, or patent law. The European Commission states that preventing certain companies from obtaining effective access to the results of the standard-setting process (the specification and/or the essential IPR for implementing the standard) leads to anti-competitive results. In fact, the refusal to offer a license by SEP holders deprives consumers of having a fair share of the standard agreements' benefits, and it would distort or eliminate competition.

## 5 FRAND COMMITMENT

As a matter of public interest, device interoperability is guaranteed when SEP holders provide standard implementers with licensing agreements concluded on fair, reasonable, and non-discriminatory terms. For the sake of simplicity in technical writing, such a term is referred to as a FRAND term. It is commonly perceived that SEP holder–implementor conflict can be resolved by a fair and reasonable royalty given to the holders by the implementers, where the holder agrees to make the SEPs available FRAND terms which allows the implementers to have access to the SEPs necessary for their products.

Licensing patents on FRAND terms have a long history dating back to the Second World War. Through the 1970s, courts issued, mostly as antitrust remedies, over one hundred judgments ordering patent holders to license their patents on terms that were FRAND. In 1959, the American Standard Association permitted the inclusion of patents into standards as long as the patentee granted a license for its patent(s) to others on reasonable terms. The European Commission also asked the European standard-setting bodies to make the European standards available on FRAND terms to all persons who wish to use them.

FRAND Commitment is crucial to offsetting the potential anti-competitive effects of standardisation agreements by SDO members while preserving the pro-competitive aspects of standard setting. It is also to prevent disputes around fairness and reasonability of licensing terms and conditions, to mitigate the risk of patent hold-up, and its non-discriminatory prong can diminish undue discrimination against level standard implementers in their licensing negotiations.

Over the past two decades, SDOs have responded to the increasing number of patents covering standardised technologies and the perceived threats of patent hold-up and royalty stacking<sup>2</sup> by adopting a series of policy measures intended to address these concerns. SDO patent policies today fall into two general categories: disclosure policies and licensing policies. The former requires participants in the standards development process to disclose SEPs they hold. Licensing policies typically require that participants, prior to the development of a standard, should make a commitment that they will license their patented technologies on FRAND terms or royalty-free after their patents are selected and incorporated into the standard. This is usually carried out via submitting a written statement, called licensing declaration or letter of assurance, to the relevant SDO. In case the patent holder is reluctant to grant FRAND commitment, its patent must not be selected nor included in the standard. It should be noted that, in a patent claim, there may be some claims covering SEPs, while some non-SEP. However, disclosure and licensing requirements apply only to the essential components of a patent claim. Making a patent holder commit to FRAND commitment seems an easy task, but the commitment does not ensure that a licensing agreement with a specific implementer will be concluded. In fact, the FRAND commitment does not guarantee contract formation, and the negotiation still might fail. FRAND conflicts and disagreements have led to a growing number of disputes and litigations. The WTO TBT Committee mentioned 57 specific trade concerns, which are predominantly related to standards and regulations in the ICT sector, including the use of 4G LTE technologies in smartphones. These disputes are usually around setting the FRAND commitment in concrete terms. The lack of a clear meaning for such a commitment perturbs its enforceability.

## 6 WHY ARE SEP DISPUTES CHALLENGING?

### 6.1 Legal Nature of FRAND Commitment

Although FRAND commitment is defined as the commitment where the SEP holder indicates its willingness to grant licenses on FRAND terms, its legal nature thereby enforcement is a matter of controversy as it is not clear whether it is a contractual obligation or it is enforced by competition law, or it is of other legal bases. This diversity has led to a situation where the judgement of every SEP/FRAND dispute may depend on its granting body, such as the EU Commission, US Department of Justice (DOJ), US courts, French courts, and UK courts.

This legal confusion has influenced patent value, license negotiations and SEP-related litigation, including jurisdiction, availability of injunction, the burden of proof and legal fees. Considering the violation of FRAND commitment as a breach of antitrust makes a difference compared to the breach of contract law. The types

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<sup>2</sup> Royalty stacking happens where a standard is covered by a very large number of SEPs and if implementers had to pay royalties to all SEP holders, royalties may stack on top of each other and become excessive in the aggregate. It could be magnified in the presence of hold up where implementers have to pay individually excessive licensing rate.



of remedy and the amount of damage differ among contract, patent, and competition law. Remedies under the latter may involve a treble damages award.

The SDOs, with their different regulations regarding FRAND commitment, are subject to different bodies of law, each of which deals with FRAND commitment differently. For example, in electronics and IT the major SDOs are the following: (1) IEEE, which developed Wi-Fi standards and is under the laws of New York, (2) ITU, which controls video coding standards including H.262, known as MPEG-2 and is an international organisation under the framework of the United Nations, (3) ISO which holds the major automotive network standard 11898 and is under the laws of Switzerland, and (4) ETSI which is the EU official telecom SDO, the origin of GSM, and is under the laws of France.

In the literature, several approaches are proposed to deal with the legal nature of FRAND commitment, such as the promise of a contract, offer of a contract or commitment to negotiate. However, the two following legal bases for FRAND commitment, i.e., contract law and competition law, are dominant approaches in the SEP community. Technical standards are different in many aspects from legislation, but at the same they interact.

### 6.1.1 Contract Law

According to this approach, the IPR rules of the SDO have legal significance in enforcing FRAND commitment. The IPR policies are, at the base, agreements by members of the SDO to abide by certain rules regarding IP ownership. Their enforceability is initially a question of contract law. In other words, the FRAND contract between a SEP holder and an SDO defines the implementer's rights as a third-party beneficiary of the FRAND contract to negotiate with the SEP holders to conclude a licensing contract. Each SDO sets its own terminology for a FRAND commitment which typically arises either as a function of the SDO's by-laws/IPR policies or as a separate explicit agreement such as the IEEE "letters of assurance".

Accepting the contractual basis of a FRAND commitment depends on the traditions of contract law and enforcement in Civil Law and Common Law. The governing law is typically the law of an SDO's local jurisdiction. IEEE, as a non-profit corporation, does not automatically grant third parties the status of the beneficiary. Thereby the enforceability of the IEEE FRAND commitment is not clear; ITU is an international organisation with no clear, enforceable nature of a FRAND commitment; ETSI is the only organisation with certain status. Its IPR Policy specifies that the obligations of the IPR Policy are contractual obligations on the members, which have to be qualified in accordance with French law. Section 6.1 of the IPR policy stipulates that the SEP owner is to be requested to give an irrevocable undertaking in writing that it is prepared to grant irrevocable licences on FRAND terms and conditions.

Contractual obligation makes both parties under the good faith requirement with subsequent sanctions in case of violation. The implementers have the right to file an action against the SEP holders in case of hold-up or any non-FRAND terms. Courts, particularly in the US and the UK, tend to attribute a legally binding nature to the FRAND commitment, however, they have not provided a convincing clarification under contract law

to support this conclusion.<sup>3</sup> In the *Unwired Planet* case,<sup>4</sup> after an extensive analysis of French contract law, the UK court acknowledged that the enforceability of the FRAND undertaking in French law was not a clear-cut question and enforced the commitment as it served the public interest.

The view of FRAND commitment as a contract is not free from criticisms nor universally acknowledged in all jurisdictions: It remains unclear whether non-members of the respective SDO who use the standards will also be considered third-party beneficiaries of the FRAND commitment; and in Germany, for example, the tendency is to consider FRAND commitment as a mere invitation for third parties/implementers to make offers and to analyse FRAND disputes under competition law.

### 6.1.2 Competition Law

Under this approach, the prevention of hold-ups is perceived as the primary purpose of a FRAND commitment, and competition law should be considered as the enforcement mechanism for the FRAND commitment. As FTC Chairwoman once said, when a patentee voluntarily agrees to license its technology on FRAND terms as a condition of winning a place in the standard, antitrust enforcers are legitimately concerned with a breach that reintroduces the risk of patent hold-up. In particular, a breach may raise antitrust concerns if it threatens to deprive consumers of the pro-competitive benefits that legitimise the standard-setting enterprise under the antitrust laws.<sup>5</sup>

In the EU, competition law prohibits dominant companies from imposing excessive royalties and discriminatory prices. Nevertheless, all SEPs do not confer dominant positions like UMTS, Wi-Fi, and LTE, which are single dominant telecom standards, and additionally, holding dominance is not anti-competitive per se. Certain abusive behaviours are required here.

Analysing the legal requirements for excessive royalty and the discriminatory price is beyond the scope of this course. However, it must be noted that excessive royalty, as a breach of FRAND commitment, is treated differently under contract law and competition law. In fact, a rate could be higher than the FRAND rate but still not abusive under competition law. In principle, the two mentioned behaviours could violate competition law if they were excessive or large enough to distort competition in the relevant market. So far, there has been no litigation in the EU that conclusively establishes the abuse of the dominant position by the SEP holder for charging excessive or discriminatory royalties.

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<sup>3</sup> For the UK see: *International Ltd v Huawei Technologies Co Ltd* [2017] EWHC 711 (Pat) (5 April 2017). For the US see: *Microsoft v Motorola* [2012] 854 F Supp 2d 993 (United States District Court for the Western District of Washington, 27 February 2012); *Microsoft v Motorola* [2012] 696 F 3d 872 (United States Court of Appeals for the Ninth Circuit 2012); *Microsoft v Motorola* [2012] 864 F Supp 2d 1023 (United States District Court for the Western District of Washington, 6 June 2012)

<sup>4</sup> *Unwired Planet International Ltd v Huawei Technologies Co Ltd* [2017] EWHC 711 (Pat) (5 April 2017) [147]

<sup>5</sup> Federal Trade Commission (2014). *Standard-Essential Patents and Licensing: An Antitrust Enforcement Perspective*. Speech by the FTC Chairwoman Edith Ramirez (dated Sept 10, 2014)

In the US, antitrust law not only does not prohibit charging monopoly prices, but it makes it as an element of the free market. What is illegal under Section 2 of the Sherman Act is acquiring, enhancing, or maintaining monopoly power in the relevant market through anti-competitive conduct that is exclusionary or predatory in nature. In the SEP context, it happens when a SEP holder deceitfully misleads an SDO to unlawfully acquire monopoly power that needs to fulfill some onerous legal requirements.

Not necessarily in the practice of excessive and discriminatory royalties, but also the EU competition law and the US antitrust law play a significant role in SEP litigations where they are mainly related to the use of injunctions for SEPs, refusal to license, bundling SEPs with other products or licensing with other licensing.

### 6.1.3 Competition Law

In FRAND/SEP disputes, the following areas of law are engaged:

- 🔄 IP law (patent infringement and validity) where the SEP holder claims that the implementer has infringed their patents while the implementer argues that the patent at issue is not basically valid. The definition of patent infringement may vary by jurisdiction, but it typically includes using or selling the patented invention without permission from the patent owner.
- 🔄 contract law (FRAND licensing and royalty rate), where the dispute is started from the other side, and the implementer sues the SEP holder arguing that the latter has breached its FRAND commitment by refusing to license or by asking an excessive price.
- 🔄 competition law where standard developers coordinate illegally with each other during standard processing, or they conduct abusive behaviours unilaterally.

As a result, these disputes being of this tribrid nature, are very complex, and no specific law governs them. Furthermore, in disputes over setting FRAND terms and rates that constitute the main body of FRAND/SEP disputes, there exists a particular challenge which is the fact that no substantive law in any jurisdiction provides clear specific legal guidance to set FRAND terms. Courts, even at the national level, may be different in terms of not only the methodology they use, but also the evidence that they consider in determining FRAND rates.

As a matter of fact, standards are implemented everywhere by implementers and are used to fabricate products to be traded internationally. Patents, on the other hand, are territorial by nature and are safeguarded by the laws of the jurisdiction where they are issued. This territorial nature of patents provides patentees with the possibility to sue alleged infringers in multiple jurisdictions when patents are issued in different jurisdictions, even if they are related to the same set of technology. FRAND licenses, thus, are mostly worldwide and are not limited to a single country, no matter where standard implementers are located. These elements make FRAND/SEP disputes international, which accordingly need a choice of law <sup>6</sup> analysis.

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<sup>6</sup> Choice of law refers to what jurisdiction's law is to be applied when there is a dispute in a transaction.




#### 6.1.4 The Role of Choice of Law

In international FRAND/SEP disputes, the choice of law analysis is inevitable. The choice of law is to link the issue of a dispute to a specific country's law. In our Context, it means that the court must define which legal categories of law, whether contract, patent, or competition law, should govern the case. These categories are defined under the *lex fori*, the law of forum/court. However, this produces uncertainties in FRAND/SEP cases as they typically arise in multiple jurisdictions, and each of these categories of law may be given weight differently.

After this classification step, the court identifies the applicable law by applying connecting factor of the chosen category. For example, if a SEP holder is alleged of breaching FRAND contract before a court that classifies FRAND commitment as a contractual issue, then by considering its choice of law rule, it usually applies the law of the country which is expressly chosen by the parties (typically, the disputes arising from a contract are settled by the law chosen by parties which is French law in the case of ETSI). But if the court classifies the dispute as a patent law issue, the connecting factor for patent infringement, the *lex loci protectionis* would be applied, i.e., the law of the country where the patent is issued.

The international element of FRAND/SEP disputes combined with multiple proceedings in multiple jurisdictions, each of which has its own *lex fori* with its own classification and connecting factors, makes the choice of law uncertain and complicated and may lead to conflicting results. Therefore, a court faced with FRAND litigation must characterise the FRAND issues under its private international law rules, identify the choice-of-law rules, and thus determine the applicable law. This analysis could be done by multiple courts in different jurisdictions for the same dispute. Because a SEP holder may file an action in every jurisdiction, it has registered its patent, and on the other hand, the implementer may initially sue the SEP holder before antitrust authorities in another jurisdiction.

In addition, courts may face multiple FRAND issues in the same case, including licensing negotiation, the definition of licensing terms, and enforceability of FRAND commitment, each of which may be characterised differently in the three categories of law, where:

-  FRAND negotiation can be regarded as a competition law issue like the procedural obligations ruled by the European Court of Justice for both parties in the Huawei case,<sup>7</sup> or as a duty to negotiate in good faith,
-  FRAND licensing terms, including setting royalty rates, can be considered as patent law issues or contractual obligations in proposing a FRAND offer.
-  FRAND commitment can be enforced as a contractual issue, i.e., a contract between the SEP holder and the SDO, or a third-party right to be licensed on FRAND terms as derived from the contract between the SEP holder and the SDO or can be enforceable under antitrust law to prohibit refusal to license, abusive behaviour, discriminatory terms price, or tying practice.

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<sup>7</sup> Case C-170/13 Huawei Technologies Co. Ltd v ZTE Corp., EU:C:2015:477



Over the last few years, courts in several jurisdictions have dealt with the determination of FRAND licensing terms under different applicable laws and have developed different sets of approaches that may lead to fragmented litigation. As the number of courts deciding FRAND-related cases has increased, so has a disagreement over the interpretation of FRAND commitment. Fragmented litigations may lead to contradictory results if one jurisdiction under one applicable law finds infringement in a dispute while another jurisdiction under another applicable law finds no infringement when both the litigations involve disputes over the same technology between the same parties. Multinational firms may control such differences to their own benefit through litigation race or forum shopping, where a litigant rush to bring suit in a jurisdiction favourable to its position, often to foreclose suit in a less favourable jurisdiction. A SEP holder may bring an action in jurisdictions that are known to favour higher FRAND rates, or for issuance of an injunction in FRAND-encumbered SEPs. For the same reason, jurisdictions in favour of setting lower FRAND rates may attract implementers. This situation may prematurely drive parties to a loop of litigation rather than real negotiation or settlement. In addition, this may contradict the global approach of many technical norms and standards. Contradictory national decisions can be significantly disparate on the notion of FRAND-compliant licensing.

## 6.2 Setting FRAND Royalty

As a contractual obligation, FRAND royalty should be determined in the wording of the commitment between the SDO and the SEP holder, however, such determination does not exist in the SDO IP policies. Dispute over setting FRAND royalty arises when the SEP holder with a valid infringed patent asks a national court to determine damages for unpermitted usage of its patent in the past and royalties for future use. It must be noted that the amount of FRAND royalty stemming from the FRAND commitment should be different from the number of patent remedies under national patent law. If the latter would suffice, why the FRAND regime would have been needed?

## 6.3 Essentiality Assessment

FRAND rate highly depends on the essentiality assessment of SEPs, which is a very technical, complex, and time-consuming issue. It is not a simple binary exercise but depends on multiple factors, including (a) precise essentiality definition, which varies across SDOs; (b) the version of the standard that is investigated; and (c) the meaning and interpretation of technical vocabulary. In addition, the concept of essentiality differs from patent validity, patent infringement, patent enforceability, or patent value, even if they are related to each other and are all important in licensing negotiations. Assessments may take 0.3 to 6 person-hours per patent and are usually carried out by technical engineers, patent attorneys, and patent lawyers. Costs range from 300 to 10000 euros per patent, and it is legally determined by courts only.

The European Commission has recommended to use AI to support essentiality assessment in the future and to establish a small supervising body to design and define the procedures, oversee the self-financing system for essentiality assessments, harmonise internationally with the different regions/countries concerned, and to have overall responsibility for quality and performance.

## 6.4 Calculating FRAND Rate

There are several approaches and methodologies to set and calculate FRAND royalty, including ex-ante incremental, comparable licenses, sunk cost value, and top-down. The first two are discussed here since the first one is vastly accepted by judges and the second is mostly applied in practice.

## 6.5 EX-ante Incremental Value

Under this approach, the royalty is based on the value of the technology before it was included in a standard. During the standard development process, different technologies (patented or unpatented) compete to be included in a standard. At this stage, the patentee could only charge an incremental value of its technology over the next best alternative. However, when one patented technology is inserted into the standard and other alternatives are eliminated, the patentee could charge the full value of the standard while its technology may make a small contribution. In other words, SEP holders should not be able to benefit from the additional hold-up value. They are entitled only to the value of the technology itself before it was included in a standard, and any value arising out of standardisation should be excluded.

This approach has been accepted by some courts <sup>8</sup> and the US and EU competition authorities. <sup>9</sup> Nevertheless, this approach has not been used in practice as it is not easy for the courts to get access to the scientist/engineers' decisions at the standard development process, which happened several years ago, evaluate all proposed alternative technologies to find the best potential alternative, estimate the ex-ante price and finally find an incremental value. The standard developing process is not simply one meeting where they pick up between two or more alternative technologies. It is in fact, an industry-wide development effort in which a number of firms cooperate over the years by contributing technological advancement and agreeing on the shape and specifications of a standard for a particular product or particular aspect of an industry.

In addition, licensing negotiations have so far been conducted bilaterally between SEP holders and implementers ex-post when the standard has been set and incorporated into products. And logically enough, SEP holders would unlikely accept the low incremental value, which disincentivises them to innovate in future, particularly when their technologies make significant contributions to the standard and the value of the complaint product.

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<sup>8</sup> See for e.g., Apple V. Motorola, 869 F.Supp.2d 901, 913(ND I11 2012) and Microsoft v. Motorola, 2013 WL 2111217 (WD Wash 2013)

<sup>9</sup> For the US, see: FTC, The Evolving IP Marketplace: aligning patent notice and remedies with competition, (2011) and for the EU see: EU Commission, Setting out the EU approach to Standard Essential Patents, COM(2017) 712 final, 6



## 6.6 Comparable Licences

Under this approach, comparable market transactions are used as benchmarks for the value of the SEPs in question. Comparable market transactions include existing patent licenses and the sale of patent portfolios. Finding licences which are comparable enough is not very straightforward, however, this approach has been mostly applied by courts, whether by comparing FRAND royalty with patent pools royalties or by unpacking prior licenses to reach an effective rate. In *Unwired planet* case,<sup>10</sup> Mr. Justice Briss highlighted that patent licences in the ICT industry have various terms, which make the comparison difficult mainly because they may be based on a lump sum rather than a running royalty, and they may be cross-licenses with a balancing figure which may be a rate or a lump sum. They may well also have other complications such as multiple rates, which are different for a variety of reasons such as different standards or different regions, royalty floors, etc. In this case, *Unwired Planet*, the SEP holder, acquired a part of Ericson's SEP portfolio for 2G, 3G, and 4G standards and asserted them against some manufacturers, including Huawei. To determine the FRAND rate, while Mr. Justice Briss, rejected two of the prior licensing agreements of *Unwired Planet* as sufficiently comparable bases, unpacked Ericson's prior licenses as comparable licenses and determined the FRAND rate.<sup>11</sup>

## 7 END-PRODUCT OR COMPONENT-BASED LICENCE

The level of SEP licensing is another debate in the case of a multi-tiered supply chain which is getting more heated in the rapid development of the IoT with networks of connected and communicating ICT devices in multiple industries with different models of business. The debate is centred on the question whether (a) SEP holders are under an obligation to grant FRAND licenses to all manufacturers implementing their patents including component makers, or (b) they are free to select the level of supply chain at which they would like to grant a FRAND license which is usually at the end-product level. To tackle this debate, some tried to find the answer by studying whether there is a legal basis under competition law, SDOs' IPR policy or patent law which oblige SEP holder to grant a licence on either level. However, the debate is ongoing, and even the expert groups gathered by the EU Commission could not reach an agreement. In the case presented in (a), the licence is concluded upstream with component makers, and there is no more licence with end-product manufacturers downstream based on the patent exhaustion principle under which the first permitted sale of a good with the patent/SEP exhausts its owner's intellectual property right against subsequent implementers. The proponents of this approach inter alia argue that components best reflect the value of standardised technology, and it reduces transaction costs and stimulates downstream innovation of implementers, and prevents SEP holders from capturing the value of other components of the end products. They also emphasise the different practices in different industries, arguing that although licensing at the end-product

<sup>10</sup> *Unwired Planet v Huawei* (n 4), 187.

<sup>11</sup> *Ibid*, 462-466.

level is common practice in the mobile device industry, that is not the case in the car industry, where original equipment manufacturers typically expect to be delivered components that are free of third-party rights.

The believers in case (b), on the other hand, argue that the end-product basis is in line with traditional industry practice and is necessary to ensure that the SEP holder is fairly rewarded for its investment. SEPs bring value to the whole product, not only to a component. They make a big difference in the price of a device in their presence or absence. Thereby end-product-based license reflects the full functionality and value of SEPs. The value and functionality of 4G technology vary if it is inserted in a smartphone, a smart car, or a smart TV. While the debate between the two groups is ongoing, it seems bilateral negotiations between SEP holders and implementers in the telecom industry might be difficult in other industries, such as automobile where there are hundreds of implementers, and collective licensing mechanisms, such as patent pools, are proposed more effective.



## 8 SEEKING INJUNCTION

As a judicial remedy by which certain actions are required by courts to be done or to be prohibited, an injunction is considered an important remedy under IP law and guaranteed as a right to an effective remedy and a fair trial under the Charter of Fundamental Rights of the EU.

In our context, the SEP holder may exercise its exclusive patent right in bringing an action for an injunction to exclude alleged infringers from using its patent. However, in the "locked-in" situation, where working around the technology or switching to an alternative is far from possible for implementers, an increase in the SEP holders' bargaining power may allow them to seek or threaten to seek an injunction to force manufacturers to accept unfair and unreasonable terms under licensing agreement and consequently carry out anti-competition opportunistic behaviour. That is why the legitimacy of seeking an injunction is a matter of controversy when a SEP holder is under FRAND commitment, and some argue that as a matter of contract interpretation, the FRAND contract waives a SEP holder's right to seek an injunction and by making a FRAND commitment, SEP holders have accepted that damages would suffice to compensate them for the infringement of their SEPs. In contrast, some others claim that seeking an injunction as a statutory right can be waived if it is clearly and unambiguously included in the FRAND commitment; otherwise, SEP holders may seek and enforce an injunction against an implementer without breaching their FRAND contract with the SSO.

While in contract law, damages are an exclusive remedy, several courts have granted the injunction, compelling a defendant to perform a contractual obligation if damages would be an insufficient remedy. These courts seem to confirm that seeking injunctions does not violate the contractual obligations of the SEP holder arising from a FRAND commitment. Other courts, however, determined that any form of injunctive relief against infringement is arguably a remedy inconsistent with the licensing commitment. In the US, Realtek, a manufacturer of Wi-Fi chips, claimed that LSI, a holder of two FRAND-encumbered Wi-Fi SEPs, breached its FRAND commitment by seeking an injunction against the importation of Realtek's Wi-Fi chips. The court held that LSI's seeking injunction prior to proposing a FRAND license to Realtek was inherently inconsistent with its FRAND obligations.<sup>12</sup> In the EU, the EUCJ in the Huawei case set out a number of steps that should be followed in SEP patent licensing negotiations by both parties and ruled that a SEP holder under FRAND commitment may be found in breach of the competition law by seeking an injunction against a potential licensee in certain circumstances.<sup>13</sup> However, it seems that taking an absolute attitude toward seeking an injunction in FRAND/SEP context, whether it be fully banning or unconditionally allowing SEP holders to seek an injunction, will lead to no sustainable solution. In fact, a right must never be eliminated due to a mere fear of likely abuse, nor should we be pushed toward holdout when running away from a potential hold-up.<sup>14</sup> Furthermore, an unconditional injunction nullifies the specific characteristics of SEPs and the purpose of FRAND commitment. If an injunction is given without justification, the implementer will be shut out of the market. FRAND licensing should be, hence, regarded as a two-way street that requires good faith of both parties to make it possible to prevent hold-ups and hold-out equivalently. Accordingly, the

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<sup>12</sup> Realtek Semiconductor Corp. v LSI Corp., 946 F. Supp. 2d 998 at 1006-07 (N.D. Cal. May 20, 2013).

<sup>13</sup> Huawei v ZTE (n 6), 50-70

<sup>14</sup> In case of holdout an infringer refuses to negotiate, negotiates in bad faith or refuses to take a FRAND licence

case-by-case analysis seems to be the only valid approach in assessing the lawfulness of seeking an injunction in the FRAND/SEP context when it comes to striking a balance between securing free competition, safeguarding the intellectual property owner's rights, and his right to effective judicial protection. This assessment should be fulfilled such that the stakeholders' interests are treated equally with no discrimination.



## SUMMARY

In today's world, the interplay between standards and patents is crucial for innovation, growth, and development. Assets of technical descriptions of product features, and standards vastly disseminate technologies amongst producers and users, simplify the production of end-use items, and ultimately enable interoperability. They themselves are not patentable, however, products manufactured in accordance with them, i.e., standards-compliant products, generally satisfy the statutory requirements for patent protection. By contrast, patents, as a strong form of monopoly, are to empower innovative R&D investors to gain an adequate return on their investment. A standard essential patent, normally referred to as SEP in literature, protects technologies essential to a standard. As a matter of fact, it is impossible to manufacture standard-compliant products, such as smartphones, without using technologies covered by SEPs. SEPs should be distinguished from patents that are not essential to a standard (non-SEPs), such as design patents, which protect the design features of an invention. Companies can invent alternative solutions that do not infringe on a non-SEP (whereas they cannot design around a SEP). For example, the "slide to unlock" technology on your mobile phone is covered by a non-SEP. Most smartphone manufacturers were able to develop different technologies for unlocking a smartphone screen that does not infringe the "slide to unlock" patent. Once a technical patent becomes essential, it is clear that the standard implementers would prefer to use it at no or at a very low cost. On the other side, the SEP holders, who have invested heavily in their patent, seek a beneficial quid pro quo. This is a usual conflict, which occurs between the private interests of the two businesses fighting for greater benefits, which may get extended further and becomes a matter of public concern and consumer welfare. This conflict is normally more serious in SEP, because essential patents are more valuable, more cited, and patented in multiple countries. They are more likely to be litigated than non-SEPs. As a matter of public interest, device interoperability is guaranteed when SEP holders provide standard implementers with licensing agreements concluded on fair, reasonable, and non-discriminatory terms. For the sake of simplicity in technical writing, such a term is referred to as a FRAND term. It is commonly perceived that SEP holder-implementor conflict can be resolved by a fair and reasonable royalty given to the holders by the implementers, where the holder agrees to make the SEPs available FRAND terms which allows the implementers to have access to the SEPs necessary for their products.

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## Appendix I. CASES

### 9.1 Case Study: Nokia vs Daimler

Automobiles run such sophisticated communication technologies that today, they are actually like smartphones on wheels. This dependency on ICT SEPs means their manufacturers need access to the 4G and 5G for navigation and communications, which requires licensing agreements. And here, once negotiations fail, litigations are inevitable. Nokia had given a FRAND declaration for the patent to ETSI and informed Daimler of its SEP portfolio in June 2016, with a first license offer in late 2016. Daimler noted in reply that the suppliers of the communication modules (so-called Telematics Control Units) embodying the patented technology would be the suitable addressees to contact and negotiate a license with. While Nokia subsequently held licence discussions with Daimler's suppliers from January 2017 to February 2019, Daimler did not take an active part in these negotiations. In February 2019, Nokia made a second offer to Daimler wherein the license rate was calculated based on the value the patented technology would provide to the car as a whole. The offer was rejected again.

In March 2019, Nokia filed a complaint for patent infringement against Daimler before the District Court of Mannheim, Düsseldorf and Munich. In May, Daimler, as the licensee, made a counteroffer to Nokia. This offer was based on the component approach, the purchase price for the communication module that Daimler paid to its suppliers. In June, Daimler made another counteroffer without a specific royalty rate. Nokia was asked to unilaterally determine the rate, while Daimler had the option to contest Nokia's rate. This also failed.

In August 2020, the Mannheim District Court granted an injunction against Daimler and recognised its liability to pay damages on the merits. Daimler appealed this decision and filed a request to stay of the enforcement of the injunction until the decision of the appeal court.

In the meantime, Daimler and its suppliers filed several lawsuits before the courts. They also asked the German Federal Cartel Office to initiate an investigation against Nokia, arguing that Nokia abuses its market power by refusing to license the willing suppliers. The German Federal Cartel Office formally called up the Mannheim District Court and other courts dealing with related cases between the parties to stay the proceedings.

In November 2020, the Düsseldorf court referred the case to the CJEU for a preliminary ruling on a series of questions relevant to competition law and SEPs. With its pre-formulated questions, it sought to clarify, in essence: <sup>15</sup>

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<sup>15</sup> Landgericht Düsseldorf, Decision of 26 November 2020, Nokia Technologies Oy v Daimler AG, 4c O 17/19, available at [https://www.justiz.nrw.de/nrwe/lgs/duesseldorf/lg\\_duesseldorf/j2020/4c\\_O\\_17\\_19\\_Beschluss\\_20201126.html](https://www.justiz.nrw.de/nrwe/lgs/duesseldorf/lg_duesseldorf/j2020/4c_O_17_19_Beschluss_20201126.html).

- whether it amounts to an abuse of a dominant position under Article. 102 of the Treaty on the Functioning of the European Union (TFEU),<sup>16</sup> if a SEP holder under FRAND commitment refuses to license a willing supplier while at the same time enforcing its claim for an injunction against the end-product manufacturer, what are the criteria for a suit;
- can a SEP owner decide which entity within a supply chain to sue for infringement, or does each entity's overall value within the chain need to be taken into account in light of competition law;
- in what circumstances can certain entities within a supply chain be excluded from an offer to license; and
- can SEP holders decide entirely of their own accord which entities they will license and which ones they refuse to license, depending on what stage of the supply chain the potential licensee operates at.

In June 2021, Daimler and Nokia announced that they had signed a patent licensing agreement under which Nokia licenses mobile telecommunications technology to Daimler and receives royalty in return. The terms of the agreement, including the amount of royalty, remain confidential. The parties then withdrew all pending litigation, including the complaint by Daimler against Nokia to the European Commission and a case pending at the EUCJ.<sup>17</sup>

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<sup>16</sup> Article 102 of the TFEU states that: Any abuse by one or more undertakings of a dominant position within the internal market or in a substantial part of it shall be prohibited as incompatible with the internal market in so far as it may affect trade between Member States. Such abuse may, in particular, consist in: (a) directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions; (b) limiting production, markets or technical development to the prejudice of consumers; (c) applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage; (d) making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts.

<sup>17</sup> Case C-182/21



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