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Improving the SEP Licensing Framework by Revising SSOs' IPR Policies

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Submitted in fulfilment of the requirements of the degree of PhD (Law)

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ABSTRACT

This thesis examines the SEP licensing framework with a view to understanding whether it can be improved by revising IPR policies.

The ICT standardisation, which provides interoperability, is one of the building blocks of the modern economy. Put simply, without standards, there would not be IoT or for example, consumers would only be able to connect to a wireless network with devices specifically built for that network. Standards are not a new phenomenon; however, they became more complex with the increasing importance of technology, which made them, in return, more dependent on patented technologies (i.e. SEPs). SEPs cause complications in standardisation as they require SEP owners and potential licensees to negotiate/agree on usually complex licensing agreements. Although SSOs have attempted to regulate this relationship with their IPR policies, now it seems these policies cannot keep up with the changing dynamics and needs in standardisation. Dysfunctions in the system do not only affect competition in the relevant markets, they also prejudice consumers' interests, for example, by passing on higher prices to cover supra-competitive royalties.

In particular, since the first *Rambus* case in the US, competition/antitrust agencies and courts have been dealing with SEP-related issues. Recently, the EU has been considering addressing some of those with legislation. Conversely, this research derives from the notion that active standardisation participants are better equipped to deal with SEP-related issues, and flexible IPR policies are more suitable for addressing these issues in the dynamic standardisation ecosystem.

Against this backdrop, this comparative research aims to identify areas where SEP licensing framework can be improved by reforming IPR policies, and it develops some proposals using the black-letter and empirical research methods that SSOs can implement.

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Finally, I would like to thank all the professionals who agreed to take part in the empirical research project and everyone who put me in contact with them.

AUTHOR'S DECLARATION

I declare that, except where explicit reference is made to the contribution of others, that this dissertation is the result of my own work and has not been submitted for any other degree at the University of Glasgow or any other institution.”

Printed Name: Nazli Cansin Karga Giritli

Signature:

ABBREVIATIONS

| | |
|------------|---|
| AG | Advocate General |
| ADR | alternative dispute resolution |
| ATIS | Alliance for Telecommunications Industry Solution |
| ANSI | American National Standards Institute |
| CDMA | code division multiple access |
| CJEU | Court of Justice of the European Union |
| DDR-SDRAM | double data rate SDRAM |
| DRAM | dynamic random-access memory |
| Commission | European Commission |
| EEA | European Economic Area |
| EPO | European Patent Office |
| EU | European Union |
| GPRS | General Packet Radio Service |
| GSM | Global System for Mobiles |
| ICC | International Chamber of Commerce |
| ITU | International Telecommunication Union |
| ITC | International Trade Commission |
| IEFT | Internet Engineering Task Force |
| IoT | Internet of Things |
| JEDEC | Joint Electron Device Engineering Council |
| LOA | letter of assurance |
| NPA | non-practicing entity |
| OEM | original equipment manufacturer |
| PAE | patent assertion entity |
| LTE | (premium) long-term evolution |
| SME | small and medium-sized enterprise |
| SDRAM | synchronous dynamic random-access memory |
| TIA | Telecommunications Industry Association |
| TFEU | Treaty on the Functioning of the European Union |

| | |
|--------|--|
| US | United States of America |
| USPTO | United States Patent and Trademark Office |
| UMTS | Universal Mobile Telecommunications System |
| VL-Bus | VESA Local Bus |
| VESA | Video Electronics Standards Association |
| VITA | VMEbus International Trade Association |
| WIPO | World Intellectual Property Organisation |

INTRODUCTION

1 DEFINITIONS

There are references to a number of terms and concepts in this work, and those used frequently (i.e. key terms and concepts) are defined here for ease of reference. The definitions include extra information to help the reader understand the work's scope better. This list of definitions is not exhaustive; where necessary, terms are defined elsewhere in this work.

The key terms and concepts of standard, standard-setting organisation (SSO), intellectual property rights policy (IPR policy), standard-essential patent (SEP), fair, reasonable and non-discriminatory (FRAND) undertaking/commitment, patent ambush, patent hold-up, patent hold-out and royalty stacking are defined below.

A **standard** is a technical specification that provides a common design for a product or process.¹ This common design either ensures the quality, safety, or interoperability of the products or processes produced/provided by different entities. For instance, toy safety standards can be categorised as safety standards, whereas the 802.11 (Wi-Fi) standard set by the Institute of Electrical and Electronics Engineers (IEEE) is an interoperability standard.² Interoperability standards enable us to join the Wi-Fi network of the University of Glasgow, Starbucks or ScotRail with Apple, Microsoft or Dell laptops or iPhones or Samsung Galaxy smartphones. Interoperability standards also enhance price competition, and that serves consumer welfare.³ This thesis focuses on **interoperability standards**, considering that the incorporation of an intellectual property right (IPR) into an interoperability standard rather than a quality or safety standard is more likely.⁴

In principle, most of the standards (e.g. 3G and 4G) that we use on daily basis result from the standardisation activities of SSOs. However, SSOs are not the only platforms where standardisation takes place. There are also de facto and government-set standards.⁵ For instance, the Portable Document Format (PDF) created by Adobe in 1992 had been widely adopted in practice and became a de facto standard. The standards set by the Federal

¹ Mark A Lemley, 'Intellectual Property Rights and Standard-Setting Organizations' (2002) 90 Calif. L. Rev. 1889, 1893.

² *Ericsson, Inc. v D-Link Systems, Inc.*, 1773 F.3d 1201 (Fed. Cir. 2014), 1208.

³ *Microsoft Corp. v Motorola, Inc.*, 1696 F.3d 872 (9th Cir. 2012), 876.

⁴ Lemley, 'Intellectual Property Rights and Standard-Setting Organizations' (n 1) 1894.

⁵ *ibid* 1894-1895.

Communications Commission for interconnection between telephone networks are examples of government-set standards.⁶

SSOs which set standards are private organisations that are open to all entities. Each member entity is represented in an SSO, and these members make decisions regarding standards. The European Telecommunications Standards Institute (ETSI) produces globally-applicable information and communication technologies (ICT) standards and is one of the biggest European SSOs, with 900+ members.⁷ The United Nation's agency, the ITU, is another SSO: developing standards with its 900+ members.⁸ SSOs active in the ICT sector (i.e. developing ICT standards) are the focus of this work, as SEP licensing issues are most salient to those standards.

An IPR policy is the rules, set by SSOs, governing IPRs that are (potentially) incorporated into a standard. SSOs' activities require cooperation between their members, and, in general, standardisation has procompetitive effects. However, IPRs owned by a member(s) that are (potentially) essential to a standard may adversely affect cooperation between members and market conditions. SSOs adopt IPR policies to mitigate these problems by regulating the rights and responsibilities of IPR owners. It is common for SSOs to require IPR owners to disclose rights that are potentially essential to a standard in a timely fashion, to ensure transparency during the standardisation process. Also, in principle, SSOs require IPR owners to give commitments that they will grant licences to all willing licensees on FRAND terms and where there is a lack of such commitment, SSOs try to circumvent the relevant IPR. It is worth noting that IPR policies are generally brief. They do not provide further guidance on issues such as the meaning of FRAND, licensing negotiations or resolution mechanisms for IPR-related disputes. As the following chapters illustrate, the vagueness of IPR policies causes uncertainties and sometimes leads to disputes.

A SEP is a patented innovation which has to be used to comply with/implement a standard. For instance, Motorola's European patents no. EP0538667 and EP0615384 are essential to the video coding standard (H.264) set by the IEEE.⁹ Thus, anyone that wants to comply with H.264 needs to implement the technology taught by Motorola's patents,

⁶ Lemley, 'Intellectual Property Rights and Standard-Setting Organizations' (n 1) 1894.

⁷ <<https://www.etsi.org/about>> accessed 19 August 2017.

⁸ <<https://www.itu.int/en/about/Pages/default.aspx>> accessed 19 August 2017.

⁹ *Microsoft Corp. v Motorola, Inc.* (n 3) 878.

and, in principle, they need to get a licence from Motorola to use these proprietary technologies. The essentiality concept gives context to the SEP definition, and, in the remainder of the work, references are made to possible interpretations of this concept.¹⁰

A FRAND undertaking/commitment is given by SEP owners to SSOs, ideally before their patents are incorporated into a standard. With this undertaking, SEP owners assure SSOs (and their members) that they will grant a licence to anyone on fair, reasonable and non-discriminatory terms if their patent is incorporated into a standard. A FRAND undertaking is a tool for SSOs to try to balance SEP owners' and (potential) licensees' interests. Although there are still uncertainties as to legal nature of the FRAND commitment,¹¹ it is generally accepted that even non-members could benefit from this undertaking given to SSOs. Generally, there is nothing preventing non-members from giving a FRAND undertaking to an SSO for the incorporation of their patents into a standard, though it is not a common practice.

Patent ambush describes a scenario where a SEP owner, who has not disclosed its SEP in standardisation activities, blocks the implementation of the proprietary technology or requests supra-competitive royalties once the industry is locked in the standard. Patent ambush and patent hold-up, defined next, have overlapping aspects, and patent hold-up could be seen as a subcategory/particular form of patent ambush.

Patent hold-up (opportunism) can be defined as 'the ability of the patent owner to extract higher royalties (or other more onerous licence terms) than the owner could have obtained before its patented technology was incorporated into an industry

¹⁰ Jorge L Contreras, 'Fixing FRAND: A Pseudo-Pool Approach to Standards-based Patent Licensing' (2013) 79 *Antitrust L.J.* 47, 74: 'Traditionally, essential patents ... must be technically necessary to implement a mandatory (i.e. non-optional) portion of a standard. However, some parties have argued that if a patent claim covers a technology that is commercially essential to implement the standard, then this patent should also be considered a SEP ... The question of commercial essentiality highlights the fact that the SEP/non-SEP boundary is not entirely clear.'

¹¹ *Unwired Planet International Ltd v Huawei Technologies Co. Ltd, Huawei Technologies (UK) Co. Ltd.* [2017] EWHC 711 (Pat), 2017 ALL ER (D) 108 (APR) [83]-[146]: The Court discussed the legal nature and enforceability of the FRAND undertaking given by Unwired Planet to ETSI. It stated that a FRAND undertaking could be considered an agreement for the benefit of third parties, a contract type recognised in most civil law jurisdictions. The sixteen-page long discussion proves that the legal nature and enforceability of the FRAND undertaking are complex issues. They should be evaluated independently in each case, considering different IPR policies governed by different laws.

standard'.¹² Not only extracting higher royalties but also declining to license SEPs qualifies as a patent hold-up.¹³

Patent hold-out (i.e. reverse patent hold-up) is the reverse form of patent hold-up, when a potential licensee stalls the SEP owner and delays getting a license: usually with the view that in the worst-case scenario, a court order would require the owner to agree on FRAND licensing terms. So, there would be effectively no difference between the terms agreed in bilateral negotiations and those determined by a court. The fact that a FRAND commitment restricts SEP owners' right to seek an injunction, at least to a certain extent, is seen as another factor facilitating patent hold-out.

Royalty stacking refers to the situation where SEP owners for the same standard seek higher royalties, resulting in an excessive cumulative royalty: to the extent that the relevant standard risks not being implemented at all or only after a considerable delay or by paying high aggregate royalties.

2 THESIS TOPIC

*'Our innovation-led economy relies on standards. ... Standards are ubiquitous in modern life.'*¹⁴

Renata B. Hesse (Former Deputy Assistant Attorney General)

Standardisation has an essential role to play in increasing interoperability of new technologies within the Digital Single Market. It can help to steer the development of new technologies ...

*In the digital economy, standard essential patents ... are an increasingly important feature in standardisation and an important element of the business model for any industries in terms of monetising their investment in research and innovation.*¹⁵

European Commission, Digital Single Market Strategy for Europe

¹² Michael A Lindsay and Robert A Skitol, 'New Dimensions to the Patent Holdup Saga' (2013) 27 American Bar Association Antitrust 34.

¹³ *Unwired Planet International Ltd v Huawei Technologies Co. Ltd, Huawei Technologies (UK) Co. Ltd.* (n 11), 92.

¹⁴ Renata B Hesse, 'IP, Antitrust and Looking Back on the Last Four Years' (2013) <<https://www.justice.gov/atr/file/518361/download>> accessed 24 July 2017.

¹⁵ Commission, 'A Digital Single Market Strategy for Europe' (2015) <<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015DC0192&from=EN>> accessed on 24 July 2017.

*'Private standard-determining organisations, ... [h]ave historically been subject to antitrust scrutiny.'*¹⁶

Broadcom Corp. v Qualcomm Inc.

*[J]ust as lack of compliance with a well-defined patent policy would chill participation in open standard-setting bodies, after-the-fact morphing of a vague, loosely defined policy to capture actions not within the actual scope of that policy likewise would chill participation in open-standard setting bodies.*¹⁷

Qualcomm Inc. v Broadcom Corp.

These statements highlight the importance of standardisation for the modern economy, whilst pointing out the severe problems in the current standardisation environment. The need for interoperability of products supplied by different companies makes standards indispensable. For instance, without standards, smartphones would not be interoperable with each other and other relevant technologies. Although difficult to comprehend, in this hypothetical world, iPhone users could probably only call other iPhone users and not, for example, Samsung users, and only smartphones supplied by certain companies could connect to Wi-Fi networks or use 4G.

While standards provide a common design for solutions used in smartphones, as in other technological devices, in the background, complex technologies enable interoperability. Unsurprisingly, these state-of-the-art technologies are mainly patented. Indeed, an average smartphone is protected by approximately 250,000 patents, owned by a multitude of entities, and, as of January 2020, 95,526 patents (21,571 patent families) are declared essential for the next big standard: 5G.¹⁸ These figures show how standards are increasingly dependent on patents. On the one hand, incorporating state-of-the-art, patented technologies could serve consumer welfare, for example in the form of faster internet connection. On the other hand, they could also prejudice consumers' interests, for example by facilitating supra-competitive royalties passed on to final consumers.

¹⁶ *Broadcom Corp. v Qualcomm Inc.*, 501 F.3d 297 (3rd Cir. 2007), 308.

¹⁷ *Qualcomm Incorporated v Broadcom Corp.*, 548 F.3d 1004 (Fed. Cir. 2008), 1017 (footnotes omitted).

¹⁸ Tim Pohlmann et al, 'Fact finding study on patents declared to the 5G standard' (2020) <https://www.iplytics.com/wp-content/uploads/2020/02/5G-patent-study_TU-Berlin_IPlytics-2020.pdf> accessed 11 April 2022, 9, 41; Daryl Lim, 'Standard Essential Patents, Trolls, and the Smartphone Wars: Triangulating the End Game' (2014-2015) 119 Penn St. L. Rev. 1, 2.

In an ideal world, standardisation increases consumer welfare by enhancing competition. However, this is not always the case in our imperfect modern economy; there have been occasions where stakeholders' conduct in standardisation has chilled cooperation among them and distorted competition. The cases discussed in Chapters II and III, and the sources produced by competition/antitrust authorities in the EU and the US illustrate the weaknesses of standardisation. Still, and despite its shortcomings, it is not fair to say that standardisation does not function properly. I just think there is room for improvement.

Although there are several problems in the standardisation ecosystem, those related to SEPs have the biggest impact, mainly because SEPs require SEP owners and potential licensees to negotiate/agree on usually complex licensing agreements. SSOs try to regulate this relationship, at least to a certain extent, with their IPR policies, which are not always equipped to address ever-changing SEP licensing issues. IPR policies were drafted when fewer companies were involved and interested in standardisation, and most of these held SEPs, so cross-licensing SEP portfolios used to be a common practice. However, now there are more companies implementing standards with different business models (e.g. non-practising entities (NPEs)),¹⁹ and there is a variety of licensing practices. These are the natural consequences of the emergence of more complex technologies, their multifunctional integration, and the increasing importance of interoperability beyond the ICT sector.²⁰ Quite a few of the participants interviewed for this thesis have also confirmed the changing landscape in standardisation, and a few have referred to IPR policies' initial function of assisting technical standardisation rather than regulating the SEP licensing framework.

So-called patent hold-up and hold-out, determining FRAND terms, over-declaration of SEPs (i.e. declaring patents that are not *in fact* essential for the final standard), and SEP-based injunctions are among the most prominent SEP licensing issues, albeit this is not an exhaustive list.

¹⁹ NPE is a term used for the entities that own patents but do not use the technology they protect. They commercialise their patents generally through licensing agreements and assert their patents against alleged infringers.

²⁰ Yann Ménière and Nikolaus Thumm, 'Fair, Reasonable and Non-Discriminatory (FRAND) Licensing Terms' [2015] <<https://publications.jrc.ec.europa.eu/repository/bitstream/JRC96258/jrc96258.pdf>> accessed 17 April 2022, 3.

The purpose of this study has been to collect and present evidence showing the relationship between SEP licensing issues and IPR policies, to make the case that the SEP licensing framework could be improved by reforming IPR policies. Although it has become clear that it is not possible to offer definitive one-size-fits-all reform suggestions for all SSOs, the work seeks to present a clearer (and objective) picture of the SEP licensing framework and how SSOs could undertake more responsibility for its improvement. The focus is on IPR policies, considering that courts and competition/antitrust agencies regard them as important in SEP disputes. Also, it is believed that, compared to legal instruments such as legislation or caselaw, IPR policies, which can be adapted to changing conditions more easily, are more suitable for dealing with issues in the dynamic standardisation ecosystem. However, coming up with proposals that would satisfy all stakeholders is particularly challenging due to their diverging views and expectations for IPR policies.²¹

3 RESEARCH QUESTIONS

The research questions, provided below for convenience, are discussed in more detail in the following Methodology Chapter:

1. Whether reforming IPR policies would improve the SEP licensing framework?
2. If so, what would be these IPR policy proposals considering antitrust/competition law and their applicability in practice?²²

4 STRUCTURE

Chapter I gives information about the methodology implemented and explains how the whole study was conducted. Chapter II focuses on the US, while Chapter III focuses on the EU, and they both deal with primary sources to understand courts' and competition/antitrust agencies' positions on SEP licensing issues and, where applicable, their IPR policy-related proposals to address these. Chapter IV reviews the secondary sources discussing SEP licensing issues, how IPR policies affect these, and IPR policy proposals aiming to improve the SEP licensing framework. Professionals involved in standardisation have been interviewed (and surveyed) to understand the dynamics of standardisation, the needs, priorities and resources of stakeholders, and to assess the applicability of IPR proposals in practice. Results are reported in Chapter V. Chapters II-

²¹ Knut Blind and Mirko Böhm, 'The Relationship between Open Source Software and Standard Setting' [2019] <<https://publications.jrc.ec.europa.eu/repository/handle/JRC117836>> accessed 17 April 2022, 54.

²² The applicability test in Question 2 is based on the common concerns related to slowing down standardisation, overburdening stakeholders (particularly causing them to incur extra costs), confidentiality (e.g. of licensing agreements), and under-protection of patents prejudicing the incentive to participate in standardisation.

V also contain conclusions where the reviewed sources and interview (and online survey) results have been analysed. To be clear, although I used my discretion whilst selecting the resources to rely on for the analyses in these interim conclusions, they do not necessarily reflect my personal views - the final Chapter (i.e. Conclusion) is where I expressed my opinion. In the final Chapter, the results and analysis are brought together and clear answers to the research questions are given. There are two annexes: Annex 1 contains the documents regarding the interviews and the ethical approval of the research²³ and Annex 2 refers to the relevant parts of the ETSI IPR Policy to which courts, competition/antitrust agencies and interview participants referred to.

²³ Research Ethics Committee Approval, Face to Face/Telephone Interview Consent Form, Face to Face/Telephone Interview Participant Information, Online Survey Participant Information, Privacy Notice, Online Survey Questions, Interview Questions and Data Management Plan.

CHAPTER 1 METHODOLOGY

1 INTRODUCTION

This chapter aims to give more information about the research methods used to answer the research questions. It starts by discussing the research questions which framed the research, including an explanation as to how the variables²⁴ of research question 1 (i.e. *Whether reforming IPR policies will improve the SEP licensing framework?*) were determined. The second part focuses on the methods used to answer the research questions. This part also explains how data was processed, analysed and interpreted.

Considering that observed patterns in the standardisation ecosystem are constantly changing, it is not possible to give definitive answers to the research questions. Thus, the main aim of this research is to introduce well-developed and coherent proposals, rather than coming up with ultimate explanations and definitive solutions. For this purpose, the research goes beyond the black-letter and text-based approaches and collects evidence to assess these proposals by confronting them with the views of practitioners (through an online survey and semi-structured interviews).

2 RESEARCH QUESTIONS

The research questions set the perimeters of a research project and help a researcher focus on issues that contribute to the project's main purpose.²⁵ They also affect the research methods that are implemented in the study.²⁶ As mentioned in the introduction, this work is built on two questions:

1. Whether reforming IPR policies would improve the SEP licensing framework?
2. If so, what would be these IPR policy proposals considering antitrust/competition law and their applicability in practice?²⁷

²⁴ Bruce C Straits and Royce A Singleton Jr, *Social Research Approaches and Fundamentals* (6th edn, OUP 2018) 46-47: Characteristics of units (i.e. objects or events under study) vary. For example, if the research question/hypothesis is 'Does economic development lower the birth rate?', the variables will be *the level of economic development and birth rate*.

²⁵ Juliet Corbin and Anselm Strauss, *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory* (4th edn, SAGE 2015) 31, 34.

²⁶ *ibid* 34.

²⁷ The applicability test in Question 2 is based on the common concerns related to slowing down standardisation, overburdening stakeholders (particularly causing them to incur extra costs), confidentiality (e.g. of licensing agreements), and under-protection of patents prejudicing the incentive to participate in standardisation.

At the stage of reviewing secondary sources for drafting a PhD proposal, particularly after reading Lemley's *Intellectual Property Rights and Standard-Setting Organizations*,²⁸ the question below was formulated:²⁹

Whether reforming IPR policies will improve the SEP licensing framework?

In order to answer this, first, the question was deconstructed into variables:

| | |
|---|---------------------------------------|
| Independent variable ³⁰ | Reforming IPR policies |
| Dependent variable ³¹ | Improving the SEP licensing framework |

Then, research question 2, which would be addressed if the answer to research question 1 is affirmative, was formed:

If so, what would be these IPR policy proposals considering antitrust/competition law and their applicability in practice?

Although assessing the compliance of potential proposals with competition/antitrust law and testing their applicability in practice, considering stakeholders' concerns and sources, had been part of the plan from the outset, the latter part was further refined during the research process.³² By the time the online survey and interview questions were drafted, I had a very good idea about the factors that may affect the applicability of proposals in practice. Data gathered from interviews mostly supported my understanding.

3 RESEARCH METHODS

Before moving to explain the research methods used in this work, it is worth noting that the US and the EU constitute the jurisdictional scope of the research, and, where appropriate, they are compared. The main reason for selecting these two jurisdictions is the fact that they (particularly the US) are the first jurisdictions which picked up on SEP-related issues, and, to this date, their caselaw and policies influence other jurisdictions.

²⁸ Mark A Lemley, 'Intellectual Property Rights and Standard-Setting Organizations' (2002) 90 Calif. L. Rev. 1889.

²⁹ Corbin and Strauss (n 25) 32-33: Literature is one of the sources that a researcher can look to frame a research problem (i.e. choosing a topic for investigation). The literature can point to an unexplored area or lead a researcher to ask 'What if?' to determine an area in need of further research.

³⁰ Straits and Singleton Jr (n 24) 48: Independent variables are variables on which variation in the dependent variable depends or influences such variation. Independent variables are the presumed cause of dependent variables.

³¹ *ibid* 48: 'The dependent variable is the one the researcher is interested in explaining.'

³² Corbin and Strauss (n 25) 1: '[Q]ualitative research is not meant to have a lot of structure or rigid approach to analysis. It is an interpretive, very dynamic, free-flowing process ...'

Being able to review their sources in English also influenced the decision on the jurisdictional scope of the research. Just to be clear, in terms of the EU, the research focuses on sources at the EU level, rather than those related to individual Member States. Therefore, for example, the CJEU's and the Commission's decisions have been reviewed rather than those of national appellate courts and national competition authorities. Given their binding nature, in the US, the US Supreme Court's and Courts of Appeals' judgments and in the EU, the CJEU's (including the General Court's) judgments have been reviewed (hereinafter together referred to as appellate courts or courts). Besides, as the main enforcers of competition/antitrust law in both jurisdictions, the DOJ's, the FTC's and the European Commission's (Commission) decisions have been considered. The cut-off date (i.e. the date after which judgments and decisions are not included) is 8 March 2022.

A combination of the black-letter approach and empirical research has been adopted to understand the relationship between the variables of research question 1 (i.e. whether a change in the independent variable is likely to influence the dependent variable) and gather/come up with IPR policy proposals.

In the first stage, all appellate courts' judgments and competition/antitrust agencies' decisions discussing SEP licensing were reviewed.³³ Primarily, Westlaw US and Westlaw International (EU) were used to search for judgments. *Standard essential patent* AND *licence/license* were used as keywords. The initial results were further filtered by using the jurisdiction filter to view the cases dealt with by the appellate courts. Then, the results were reviewed manually to identify the relevant ones. Competition/antitrust authorities' decisions were searched in each authority's database.³⁴ Other than judgments and decisions, relevant official sources published by competition/antitrust agencies (e.g. guidelines, recommendations, communications) were searched for on their websites. Also, the DOJ's business review letters related to the revision of IPR policies were reviewed.³⁵ These searches were repeated periodically until the cut-off date (i.e. 8 March 2022). Commission's decisions, *ETSI Interim IPR Policy*³⁶ and *Sun/ETSI*³⁷ were requested from the Commission, as they could not be found

³³ Merger decisions have not been reviewed, given the difficulty of collating these decisions based on future effects of mergers with judgments and decisions based on retrospective evaluation of disputes.

³⁴ FTC <<https://www.ftc.gov/legal-library/browse/cases-proceedings>> accessed 3 June 2022; DOJ <<https://www.justice.gov/atr/antitrust-case-filings>> accessed 3 June 2022; EC <https://ec.europa.eu/competition/elojade/isef/index.cfm?clear=1&policy_area_id=1> accessed 3 June 2022.

³⁵ DOJ <<https://www.justice.gov/atr/business-review-letters-and-request-letters>> accessed 3 June 2022.

³⁶ ETSI Interim IPR Policy (Case no IV/35.0006) [1995].

³⁷ Sun/ETSI (Case no. 37926).

on its website. While the Commission shared the former, the latter was not received despite emails sent to follow up on this request. Thus, the discussion on *Sun/ETSI* in Chapter III relies on a written question submitted to the Commission and two secondary sources. For completeness, Chapter II and Chapter III, which respectively discuss the primary resources in the US and the EU, start with a brief explanation as to the legislative background (e.g. Section 2 of the Sherman Act, TFEU Article 102). It is worth noting that unless the historical context demands otherwise, all institutions and treaty articles are given their current nomenclature and updated with the use of [...] in quotes.

The second stage was the literature review. Westlaw US, Westlaw International (EU), and LexisLibrary were used to find relevant secondary sources, and the keywords *standard-setting organisation*, *standard development organisation*, *patent* and *standard* were used. The sources were filtered further after the initial research by reading abstracts and skimming. Also, reports published/commissioned by the Commission were searched on its website and reviewed.

A survey of primary and secondary sources revealed that the answer to research question 1 is affirmative, at least as far as the courts and competition/antitrust agencies are concerned. Also, following the first and second stages explained above, I identified the main sources of SEP licensing issues, understood how they are linked to IPR policies better and listed the proposals that have been made for revising IPR policies. The proposals were grouped under a number of categories. For example, the proposals, such as introducing upfront FRAND commitments stipulating that FRAND commitments shall pass to subsequent SEP owners, were grouped under the category of *FRAND commitment*. Grouping them into a smaller number of categories made it easier to analyse them. Although these were not the final proposals, they cover all the critical issues at the intersection of SEP licensing and IPR policy, so they were helpful for the preparation of the online survey and interview questions. Besides, the categories used to group the proposals constituted the basis of the table summarising the underlying causes of SEP licensing issues and areas SSOs could improve by revising IPR policies. This table has constituted the basis of the analyses of all substantive chapters and the final analysis in the Conclusion chapter (see Chapter II and Conclusion for Table 2/Table 2 (v2))

The next stage was conducting the online survey and interviews. Survey is a method of data collection through interviews or self-administered questionnaires. The sampling and data gathering processes, together with explanations regarding processing, analysing and interpreting the data, are discussed in-depth under separate subheadings below.

However, at this point, it is worth mentioning that the original research question, which referred to *patent hold-up*, has been revised by replacing the patent hold-up reference with the more general *SEP licensing framework* whilst conducting the interviews. The main reason for this is the fact that the existence of patent hold-up is controversial. Although this was known before having the interviews, interaction with the participants made it clear how sensitive certain groups are on this issue. The fact that the research completed until the revision was not limited to patent hold-up further justified removing the reference to this concept. One reason for this was the adoption of a broad patent hold-up definition encompassing, for example, later or no disclosure of potential SEPs, refusal to license, and asking for un-FRAND royalties, which required me to review sources discussing SEP licensing issues other than patent hold-up.³⁸ The other reason was that it became apparent in the early stages of the research that it is not possible to improve SEP licensing only by focussing on patent hold-up; instead, a holistic approach should be adopted.³⁹ For instance, whilst proposing a safeguard to minimise patent hold-up, one should always ensure that this would not exacerbate hold-out. This led me to consider relevant SEP licensing issues other than patent hold-up from the outset, which eliminated the need to rerun searches, particularly those made for secondary sources, after revising the research question. In line with the revision of the research question, the official thesis title has also been changed.⁴⁰

³⁸ 521, 'Contribution to the Debate on SEPs' (2021) <<https://ec.europa.eu/docsroom/documents/45217>> accessed 16 March 2021, 28: They defined patent hold-up narrowly as a reference to situations where SEP owners may exploit their market power to demand high royalties by threatening to enjoin potential licensees from using the standard.

³⁹ DOJ, 'IEEE Supplemental Business Review Letter' (2020) <<https://www.justice.gov/atr/page/file/1315291/download>> accessed 28 December 2021, 9 (footnotes omitted): '[C]ondemning [hold up], in isolation, as an antitrust violation, while ignoring equal incentives of implementers to "hold out", risks creating "false positive" errors of over-enforcement that would discourage valuable innovation.'

⁴⁰ The old thesis title: *Practical Reform Solutions to SSOs' IPR Policies to Eliminate (or at least Minimise the Risk of) Patent Hold-up*; The current thesis title: *Improving the SEP licensing framework by revising SSOs' IPR policies*.

3.1. Online Survey

3.1.1. SAMPLING

A sample is the group of subjects in a study, and it ideally represents the target population (i.e. providing a close approximation of its certain characteristics).⁴¹ Stakeholders involved in standardisation were the target population of this study.⁴² In order to have a sample representing the target population and given the importance of having a good and up-to-date sampling frame⁴³ the membership directories of ETSI and IEEE, which are the biggest SSOs in the EU and the US respectively, were selected as the sampling frame. Non-probability sampling was adopted to select the sample from the sampling frame.

As the selection in non-probability sampling is not random, it is not possible to know the chances of selecting any element from the sampling frame.⁴⁴ This means it is not possible to determine the likelihood that the sample represents the target population.⁴⁵ However, despite its weaknesses, non-probability sampling is widely used as, in many instances, it is more practical or is the only viable means of forming a sample. The fact that the purpose of the interviews was to understand standardisation better instead of testing a hypothesis and drawing general conclusions also made me comfortable with using non-probability sampling.⁴⁶ Non-probability sampling was also adopted given the dual role (SEP owner and licensees) of some stakeholders involved in standardisation and to increase the sample size.⁴⁷

The online survey was initially disseminated by ETSI and IEEE, but not to all their members; ETSI sent it to the members of the IPR Special Committee, and IEEE sent it to the members of the Corporate Advisory Group. There were no follow-ups after these initial disseminations as the contact information of people who had received the survey was not known to me. AIPPI⁴⁸ Turkey (as the researcher was a member) also disseminated the online survey among its members. In addition, some recipients shared the online survey with others who were not in the groups receiving it directly from ETSI, IEEE or AIPPI Turkey.

⁴¹ Straits and Singleton Jr (n 24) 110.

⁴² *ibid* 107.

⁴³ The place from which the sample is selected (e.g. membership directories).

⁴⁴ Straits and Singleton Jr (n 24) 110.

⁴⁵ *ibid* 124: It is not possible to control investigator bias in selecting elements.

⁴⁶ Sigmund Grønmo, *Social Research Methods: Qualitative, Quantitative and Mixed Methods Approaches* (1st edn, SAGE 2020) 156: 'Some sample studies are conducted without the purpose being to draw conclusions about the universe as a whole. The study is not intended to achieve any systematic generalisation. Therefore, the sample of units is not composed or constructed in such a way that it provides a basis for systematic generalisation. The units are often chosen in a pragmatic or discretionary manner.'

⁴⁷ The larger the sample size, the more likely it represents the target population.

⁴⁸ The International Association for the Protection of Intellectual Property.

The response rate was low. In eight months, only 13 responses were received.⁴⁹ In an attempt to expand the sample size, ETSI members were contacted directly based on the membership directory accessible from the ETSI website.⁵⁰ Further, using publicly available online information, the contact information of persons involved in standardisation was found, and the online survey sent directly to them. Determining the contact details of potential participants for 500 ETSI members took five days, and an email to invite them to participate in the online survey was sent to around 390 of them. No response was received. Given the time invested and the outcome, this plan was aborted. The decision was then made to use the responses to the online surveys to sample for interviews.

3.1.2. QUESTIONS

The online survey was designed to be completed in around 10 minutes. The majority of the questions were closed-ended questions with two categories (Yes/No, Agree/Disagree) (see Annex 1). All substantive close-ended questions also included a comment section to enable the participants to express their views should they wish to do so.

3.1.3. FIELD ADMINISTRATION

The online survey was administered through the University of Glasgow: Research Online Survey account.⁵¹

3.1.4. PROCESSING, ANALYSING AND INTERPRETING DATA

As mentioned above, the response rate was low. Thus, the data gathered through the online survey, particularly the comments participants had provided in the comment sections of the questions, were incorporated into Chapter V, analysing the evidence collected from the interviews.

⁴⁹ Straits and Singleton Jr (n 24) 215: '[S]urvey planning is not a linear series of decisions. Rather, it requires the simultaneous consideration of the likely costs and benefits of many choices. Also, as planning progresses, revisions in previous decisions and plans frequently are needed.'

⁵⁰ Information of 917 members was obtained from the ETSI website <<https://www.gla.ac.uk/research/strategy/ourpolicies/useofonlinesurveystoolforresearch/>> on 30 March 2020.

⁵¹ Use of Online Surveys Tool for Research <<https://www.onlinesurveys.ac.uk/>> accessed 3 June 2022.

3.2. Semi-structured Interviews

The purpose of the semi-structured interviews was to understand the dynamics of standardisation and stakeholders' needs and resources.

3.2.1. SAMPLING

It is possible to use different survey modes to sample and collect data in the same research.⁵² This approach has been adopted in the current research, and the online survey was used to form the sampling frame of the interviews. More specifically, the interviewees were selected among the participants who would like to be interviewed (i.e. giving an affirmative answer to the Online Survey Question 25). Then, non-probability sampling was implemented and everyone in this frame was contacted to be interviewed. Some interview participants also put me in contact with professionals involved in standardisation. In the end, 11 professionals were interviewed. Although I initially aimed to interview professionals affiliated with SSOs to understand their positions better, this was not possible.

Despite the small sample size, I managed to talk to participants coming from different backgrounds (e.g. law, science) and with different views (i.e. patent- and product-centric). So, essentially, the purpose of the interviews, which was to better understand standardisation rather than determining the number of participants arguing/saying A or B, has been achieved.



3.2.2. QUESTIONS

Open-ended questions were prepared to understand the relationship between the reform proposals and common concerns to test the applicability of the proposals in practice (see Annex 1). Due to time concerns (the aim was to complete each interview in around 30 minutes, but in practice, they took around one hour), it was impossible to incorporate all the proposals into the questions. Therefore, five of the most controversial proposals were selected and matched with the common concerns.⁵³ The table below shows this match:

⁵² Straits and Singleton Jr (n 24) 225.

⁵³ Although the FRAND royalty calculations are also controversial, they were not covered in the online questionnaire as this technical and economic issue is beyond the scope of the research.

Table 1

| | Common concerns + success  | Costs | Sources | Delay | Success | Confidentiality | Limiting the patent owners' ability to exercise their rights |
|--------------------------|--|-------|---------|-------|---------|-----------------|--|
| | Proposals  | | | | | | |
| SEP owners and Licensees | Express search duty qs | x | x | x | x | | |
| | Express disclosure duty qs | | | | | x | |
| | Non-discrimination qs | | | | | | x |
| | Ex ante negotiations qs | x | | x | ~x | | |
| | Injunctive relief qs | | | | | | x |
| SSOs | Auction model qs | x | x | x | x | | |
| | Patent pool qs | x | x | | x | | |
| | SEP valuation qs | x | x | x | x | | |
| | Ex ante negotiations qs | x | x | x | x | | |
| | Internal dispute resolution mechanism qs | x | x | | x | | |

One of the aims of the interviews was to test the applicability of each proposal by revealing the correlation between them and the common concerns. For instance, questions were asked to understand how much an organisation needs to spend to determine its potential SEPs, whether it is possible to determine all of them with 100% accuracy, and whether these searches cause delays in the standardisation process. According to the evidence collected, it was then assessed whether the proposals could be adopted in practice, or whether they are purely academic.

There were other questions aimed at understanding the likelihood of success of some proposals. For instance, regarding an express search duty, the availability of resources (e.g. staff), how patent portfolio sizes and standards' complexity affect members' search efforts was queried. One general question was asked to test the cumulative effect of implementing the proposals (i.e. stricter IPR policies) on entities' incentive to participate in standardisation.

The level of detail and elaboration of the guide providing general guidelines for the implementation and management of the interviews is what distinguishes semi-structured

interviews from unstructured interviews.⁵⁴ In semi-structured interview, the same topics are covered in each interview and, after going through the listed questions, participants can add anything that they think relevant.⁵⁵ Considering this definition, it should be noted that interviews conducted for the purposes of the current research were not strictly semi-structured, as although broadly the same topics were covered in each interview, it was not necessary to cover the listed questions before moving on to bespoke questions. However, as the implemented interview method is more akin to semi-structured interviews than unstructured and structured interviews, the semi-structured interview term is used to describe the method throughout the study.

The semi-structured interview approach was adopted to have more flexibility. There was no obligation to adhere to the prepared interview questions to be able to ask questions considering the participant's experience, background and ever-changing/evolving SEP licensing issues. In parallel with the data collection, data and other sources were analysed and these analyses affected the questions asked in the following interviews.⁵⁶ For instance, after the first few interviews, participants were asked about over-declaration instead of under-declaration, which became mostly redundant after the *Rambus* cases, discussed in the succeeding chapters. Again, despite not being one of the interview questions, most of the participants were asked about licensing in the value chain controversy (i.e. license to all v access to all), which had recently become more controversial.

3.2.3. FIELD ADMINISTRATION

The questions were shared with the participants beforehand. Except for one, all the interviews were conducted via Zoom. One participant preferred to share their written responses. Unless there was no consent to recording, interviews were recorded, and these recordings were used to transcribe interviews. I also took handwritten notes of all interviews, which are saved to the University of Glasgow's OneDrive for Business account. Further information on the data collected, relevant documentation, and how they are organised and stored could be found in *Data Management Plan* provided in Annex 1.

⁵⁴ Grønmo (n 46) 117.

⁵⁵ Corbin and Strauss (n 25) 39.

⁵⁶ Grønmo (n 46) 300.

3.2.4. PROCESSING, ANALYSING AND INTERPRETING DATA

Analysis of qualitative data is flexible and there is no need to use standardised analytical techniques to analyse such data.⁵⁷ This study benefitted from this flexibility and relied on more general strategies in the analysis of interview data.

Individual responses to open-ended questions (generally not asked in a particular order) were too diverse and lengthy to manage and analyse.⁵⁸ Thus, a number of categories were created (i.e. Disclosure, Essentiality, *Ex ante* negotiations, FRAND commitment, SEP-based injunctions, IPR policy (in general) and Miscellaneous) and responses grouped under these categories which, where appropriate, were further divided into subcategories.⁵⁹ Then, based on this categorisation, the responses were analysed and reported in Chapter V.

⁵⁷ *ibid* 300-301.

⁵⁸ Straits and Singleton Jr (n 24) 419.

⁵⁹ Grønmo (n 46) 301-302: '*Coding* the data is an important procedure for creating an overview of simplifying and summarising the content of the text. This involves finding one or a few keywords that can describe or characterise a larger section of the text, such as multiple sentences or entire paragraphs. The keywords are called codes. ... In qualitative data analysis, a code is an abbreviation or a symbol that is used for a segment of words (a sentence or paragraph). For example, a code for a particular section could specify a topic that the section is about, or something that is mentioned in the section ...'

CHAPTER 2 UNITED STATES

1 INTRODUCTION

This chapter focuses on the US perspective on SEP licensing issues. In that respect, the relevant legislation, US appellate courts' judgments, the FTC's and the DOJ's (hereinafter together referred to as US agencies) decisions and recommendations are analysed to illustrate their approaches in respect of (i) the causes of SEP licensing issues, (ii) their consequences, (iii) links between these issues and IPR policies and (iv) whether they could be minimised/eliminated by revising IPR policies.

The chapter is divided into three main parts; the first part discusses the relevant legislation; the second part focuses on the judgments/decisions, opinions and recommendations of the US appellate courts and agencies; and the Conclusion contains the analysis of the preceding parts.

2 RELEVANT LEGISLATION

2.1. Section 1 and Section 2 of the Sherman Act

Section 1 of the Sherman Act (Section 1) prohibits any contract, combination or conspiracy that unreasonably restrains domestic or foreign trade or commerce (i.e. the coordinated elimination of competition). The following must be proven - (1) the existence of an agreement (i.e. concerted anticompetitive conduct) and (2) unreasonable restraining of trade - to establish liability under Section 1.

In practice, the *per se* and *rule of reason* analyses are applied to assess the competitive reasonableness of particular practices, namely based on their actual effects on competition. Inherently anticompetitive practices, without any procompetitive effects, are in principle regarded as *per se* illegal. Restraints that are not unreasonable *per se* are analysed under the rule of reason, which requires a fact-specific assessment of market structure and market power therein to assess the restraint's actual effect on competition (i.e. whether a particular practice restrains competition unreasonably). The main goal of the rule of reason is to distinguish between restraints that harm the consumer and restraints that serve the consumer's best interests by stimulating competition.

Section 2 of the Sherman Act (Section 2) targets independent anticompetitive conduct and prohibits anticompetitive conduct of entities holding monopoly power. Three elements must be shown to establish liability under Section 2: (1) the possession of monopoly, (2) the wilful acquisition or maintenance of monopoly power and (3) causal antitrust injury. It is worth noting that the mere possession of monopoly power is not itself unlawful, hence not prohibited. Section 2 is violated where there is an abuse or leverage of monopoly power or if there is an attempt to monopolise the market through predatory or exclusionary means. Under Section 2, anticompetitive conduct must affect competition adversely and thereby harm consumers through reduced choices and/or increased prices.

The US agencies confirmed that there is no presumption of market power where there is an IPR.⁶⁰ Even if an IPR owner has market power, this does not automatically constitute a breach of the antitrust rules.⁶¹ Essentially, they made it clear that they would treat IPRs as any other property or asset in the antitrust assessment context.⁶²

The issue of whether a refusal to license IPRs violates Section 2 relates to SEP licensing. As per *Trinko*, the general rule is that businesses are free to choose the parties with whom they deal (i.e. no duty to deal).⁶³ Although no duty to deal is the rule, under exceptional circumstances refusal to deal can breach Section 2. These conditions are set out in *Aspen*:⁶⁴ (1) terminating a voluntary and profitable prior course of dealing; (2) forsaking short-term profits to achieve a long-term anticompetitive result; and (3) anticompetitive intent. There is no uniform approach to a unilateral refusal to license IPRs among Circuit courts, and *Trinko*'s potential effect on refusal-to-deal cases involving IPRs is not settled. While the 9th Circuit is more claimant-friendly in refusal-to-license/Section 2 cases, the Federal Circuit previously took the position that refusal to deal claims do not apply to IPRs.⁶⁵ Historically, the US agencies have taken the position that a mere unilateral refusal to license a patent does not violate antitrust law. Although under the Trump

⁶⁰ DOJ and FTC, 'Antitrust Guidelines for Licensing of Intellectual Property' (2017) <<https://www.justice.gov/atr/IPguidelines/download>> accessed 17 April 2022, 2, 4.

⁶¹ *ibid* 4.

⁶² *ibid* 3-5.

⁶³ *Verizon Commun. v Law Off. of Curtis Trinko*, 124 S.Ct. 872 (2004); DOJ and FTC, 'Antitrust Guidelines for Licensing of Intellectual Property' (2017) (n 60) 3.

⁶⁴ *Aspen Skiing Co. v Aspen Highlands Skiing Corp.*, 105 S.Ct. 2847 (1985).

⁶⁵ The 9th Circuit and the Federal Circuit decided differently in *Image Technical Services Inc. v Eastman Kodak Co.*, 125 F.3d 1195 (9th Cir. 1997) and *Re Independent Service Organizations Antitrust Litigation*, 203 F.3d 1322 (Fed. Cir. 2000) although their facts were substantially similar.

administration their views began to diverge, as discussed in depth below, it seems that their views have been converging again under the Biden administration.

2.2. Section 5 of the Federal Trade Commission Act

The Federal Trade Commission Act (FTCA) (Section 5) gives authority to the FTC to investigate and prosecute anticompetitive business conduct. Section 5 refers to ‘unfair methods of competition’, which includes any conduct that violates the Sherman Act (or other antitrust laws) and standalone violations (i.e. conduct that does not infringe any other antitrust laws) (i.e. the FTC’s standalone authority). Under Section 5, the FTC could stop incipient antitrust violations, which, if allowed, would harm competition in the future. Although the outer boundaries of Section 5 are not clear, the FTC tends to enforce its standalone authority against dominant firms.

2.3. Standards Development Organisation Advancement Act 2004

The Standards Development Organisation Advancement Act 2004 deals with SSOs and their activities and extends the protection provided to joint ventures by the National Cooperative Research and Production Act of 2003 to SSOs.

Under Section 4302, standardisation activities of SSOs are not considered illegal per se and their anti-competitiveness is assessed considering all relevant factors affecting competition based on reasonableness. SSOs’ members are not within the scope of the Act; it is only applicable to SSOs.⁶⁶ The Act explicitly excludes exchanging business information (e.g. cost, distribution) among competitors not reasonably required for standardisation, market allocation agreements between competitors, and agreements to set or restrain prices, from the definition of *standards development activity*.⁶⁷ Also, SSOs that file a notification to the US agencies can avoid treble damages⁶⁸ pursuant to Section 4303.

3 US APPELLATE COURTS’ AND AGENCIES’ APPROACH

This section sets out the views of US appellate courts and agencies on various aspects of SEP licensing issues. The US appellate courts’ judgments, US agencies’ decisions and

⁶⁶ 15 U.S.C.A. § 4301(a)(8)

⁶⁷ 15 U.S.C.A. § 4301(c)

⁶⁸ For example, Clayton Act permits courts to triple the actual damages awarded to the winning plaintiff.

guidelines, reports, and official communications (including the DOJ business review letters⁶⁹ and statements) are discussed. For clarity, the first part is dedicated to the US appellate courts' judgments and US agencies' decisions, while the second part deals with the agencies' guidelines, reports and official communications.

3.1. Judgments, Decisions and Orders

3.1.1. CAUSES OF SEP LICENSING ISSUES

One of the main reasons why issues regarding patent licensing are exacerbated in the SEP licensing framework is the increased market power of a SEP owner after including its proprietary technology into a standard.

In principle, there is vigorous competition among different technologies before standardisation, while, after standardisation, standardised features start to dominate the market, and SEPs confer substantial market power to their owners.⁷⁰ For example, 90% of DRAM production was compliant with the JEDEC's two standards and this gave a similar level of dominance to Rambus which had four patented technologies covered by these standards.⁷¹

A simplified, hypothetical example could illustrate how SEP owners' market power increases with the inclusion of their technology into a standard:

Take a standard called STNDRD related to smartphones consisting of different technical features (i.e. F1, F2, F3 and F4). During the standard-setting process, alternative technologies can be incorporated into STNDRD for these technical features, and some of those are substitutes. For instance, let's assume, for F1, there are three alternative technologies (i.e. patented T1, non-patented T2 and non-patented T3) which means that they can be incorporated to function as F1. At this stage, the alternative technologies compete as viable candidates to fulfil the function of F1. However, once the standard is adopted and T1 is incorporated into STNDRD, T1 gains a competitive advantage over T2 and T3. Then, with the adoption of STNDRD by the industry, the market power of the owner of T1 increases. For example, where 85% of smartphone manufacturers start to manufacture STNDRD-compliant products, that means that the owner of T1 has a similar

⁶⁹ 'What is a Business Review?' <<https://www.justice.gov/atr/what-business-review>> accessed 3 April 2019: The procedure allows the DOJ to disclose its enforcement intention regarding conduct upon an application of an entity concerned about the legality of their proposed conduct.

⁷⁰ *Rambus Inc. v F.T.C.*, 522 F.3d 456 (D.C. Cir. 2008), 459.

⁷¹ *ibid* 459.

level of market power (i.e. 85%) in the relevant technology market (i.e. F1) as it is not possible to manufacture STNDRD-compliant smartphones without using T1.⁷²

High switching costs are another unique complication of the SEP licensing ecosystem. Making investments for manufacturing standard-compliant products whilst developing standards is a common practice. Substantial investment means substantial sunk cost⁷³ in case of switching from the standardised technology. For instance, the switching cost from the JEDEC's standards mentioned above to avoid paying licence fees to Rambus might have amounted to hundreds of millions of dollars.⁷⁴

In *Antitrust Guidelines for Licensing of Intellectual Property*, the US agencies defined technology markets as markets consisting of IPRs that are licensed and their close substitutes.⁷⁵ They also stated that when IPRs are marketed separately from the products using proprietary technologies, the competitive effects of these transactions may be analysed in the relevant technology markets.⁷⁶ In line with this approach, generally the technology covered by a SEP (and substitutes for this technology) is considered as a single relevant product market (patented T1, non-patented T2 and non-patented T3, in the example above) whilst assessing monopolisation in the US.⁷⁷ Consequently, it is accepted that a SEP owner (e.g. the owner of T1) has monopoly power in that market and the assessment proceeds to the next stage: whether the monopoly is acquired or maintained unlawfully.

3.1.2. CONSEQUENCES OF SEP LICENSING ISSUES

Standards ensure interoperability, facilitate the entrance of new players to the market and foster competition between entities regardless of their size.⁷⁸ Thus, they increase

⁷² David A Balto and Andrew M Wolman, 'Intellectual Property and Antitrust: General Principles' (2003) 43 IDEA 395, 417-416 (footnotes omitted): 'Technology markets include "the intellectual property that is licensed (the "licensed technology") and its close substitutes--that is, the technologies or goods that are close enough substitutes significantly to constrain the exercise of market power with respect to the intellectual property that is licensed.'" When IP rights are marketed separately from the products encompassing the intellectual property, technology markets may be used to analyse competitive effect.'

⁷³ *Black's Law Dictionary* (Thomson Reuters 2014): 'A cost that has already been incurred and that cannot be recovered.'

⁷⁴ FTC Opinion in the Matter of Rambus Inc., !2006-2 Trade Cases P 75364 (2006), 51.

⁷⁵ DOJ and FTC, 'Antitrust Guidelines for Licensing of Intellectual Property' (2017) (n 60) 9.

⁷⁶ *ibid.*

⁷⁷ *In the Matter of Motorola Mobility LLC and Google Inc.*, 156 F.T.C. 147 (2013), 5; David J Teece and Edward F Sherry, 'Standards Setting and Antitrust' (2003) 87 Minn. L. Rev. 1913, 1928.

⁷⁸ *ibid* 2.

competition, innovation, product quality and choice.⁷⁹ However, mainly because of the enhanced market power of SEP owners, there is a delicate balance in standardisation, and any dysfunction therein is capable of disturbing the whole sector, harming stakeholders and restricting competition.⁸⁰

3.1.2.1. Harming overall competition

SEP-related issues may be detrimental to (potential) licensees and competition as they can exclude them and their products from the market. *Motorola Mobility LLC and Google Inc.*, where Motorola/Google⁸¹ used injunction and exclusion order⁸² threats against willing licensees to extract more favourable licensing terms (particularly royalty rates above the FRAND benchmark rates), is an example of such anticompetitive conduct.⁸³ The FTC stated in this case that despite its FRAND commitment, Motorola/Google enjoined and excluded some of its competitors from marketing standard-compliant products through its SEPs.⁸⁴

The FTC decided that Motorola/Google breached its FRAND commitments by making these threats and referred to the likely anticompetitive effects of this breach; (i) reduction of product choice, (ii) exclusion of the competitors' products from the relevant markets, (iii) price increases, (iv) dampening the competition between Motorola/Google and their competitors as a result of the competitors' increased costs and (v) undermining the integrity of standard-setting and chilling the participation to standardisation.⁸⁵

3.1.2.2. Potential claims

In the US, conduct causing SEP licensing issues (e.g. not disclosing a potential SEP, breaching FRAND commitment) can be characterised as an unfair method of competition

⁷⁹ *ibid.*

⁸⁰ *ibid.*

⁸¹ *ibid* 1, 5: After Motorola gave FRAND commitments concerning their SEPs necessary to comply with cellular, video codec and wireless LAN industry standards adopted by IEEE, ETSI and ITU, it was acquired by Google.

⁸² 'About Section 337' <https://www.usitc.gov/intellectual_property/about_section_337.htm> accessed 4 April 2019: Most of the investigations that the ITC conducted under Section 337 of the Tariff Act of 1930 involve IPR claims (e.g. imported goods infringing patents). The ITC can also investigate antitrust claims regarding imported goods under Section 337. The primary remedy under Section 337 is an exclusion order that stops the import of the alleged infringing goods into the US.

⁸³ *In the Matter of Motorola Mobility LLC and Google Inc.* (n 77) 6.

⁸⁴ *ibid.*

⁸⁵ *ibid* 6-7.

(e.g. monopolisation),⁸⁶ fraud, misuse of patent and breach of contract. The judgments and decisions below illustrate the relationship between these types of conduct and the relevant law.

In *Potter*,⁸⁷ where the appellant had brought infringement claims based on two SEPs, the Court dismissed the trial court's judgment that the appellant ought to be estopped from bringing a patent infringement action, given that it failed to disclose the patent to the relevant SSO's subcommittee, despite the committee's policy requiring the disclosure of potential SEPs, and gained a monopoly over the relevant standard. The Court referred to the nature of the doctrine of estoppel as preventing the patent holder from enforcing its patent in the future as a ground of dismissal and stated that this was not a result that the trial court intended to achieve with its judgment.⁸⁸

In the *Stambler* case,⁸⁹ a patent infringement action concerning a SEP, the Court affirmed the trial court's judgment applying the doctrine of estoppel. *Inter alia*, in its reasoning, the Court referred to the fact that the appellant had not disclosed its potential SEP to the relevant SSO whilst attending the standardisation activities and despite its duty to speak out.

*Dell*⁹⁰ was the first case in which the FTC applied an antitrust-based duty of care⁹¹ (i.e. whether Dell had violated its duty of care by not disclosing its potential SEPs) to SSOs' members in the standard-setting process. The fact that Dell (i) did not disclose its SEP during the development of a computer bus design standard (i.e. VL-Bus) by the VESA and (ii) then, contacted some VESA members to request them to recognise its patent rights

⁸⁶ Krista S Jacobsen, 'Intellectual Property in Standards: Does Antitrust Law Impose a Duty to Disclose (Even if the Standard-Setting Organisation Does Not)?' (2010) 26 Santa Clara Computer & High Tech. L.J. 459, 484-486: Even if it is not tested before the US appellate courts, Jacobsen argued that the essential facilities doctrine could be used against a SEP owner violating Section 2 by potential licensees to access the technology; Justin (Gus) Hurwitz, 'The Value of Patents in Industry Standards: Avoiding License Arbitrage with Voluntary Rules' (2008) 36 AIPLA Q.J. 1, 15-16: They pointed out that the SEP owner and a potential licensee must be competitors to apply the essential facilities doctrine.

⁸⁷ *Potter Instrument Co., Inc. v Storage Technology*, 641 F.2d 190 (1981).

⁸⁸ *ibid* 192.

⁸⁹ *Stambler v Diebold, Inc.*, 878 F.2d 1445 (1989); *Wang Laboratories, Inc. v Mitsubishi Electronics*, 103 F.3d 1571 (Fed. Cir. 1997): Wang did not disclose its patent applications to the SSO. Its invention became an industry standard, and the relevant product prices dropped significantly. The Court decided that Mitsubishi had an implied licence for manufacturing the product like equitable estoppel considering the entire course of conduct between the parties over six years (e.g. Wang convinced Mitsubishi to manufacture the product).

⁹⁰ *In the Matter of Dell Computer Corporation*, 121 F.T.C. 616 (1996).

⁹¹ *ibid* 627.

led to the FTC's investigation. The matter was resolved with a consent order where the FTC concluded that Dell did not disclose its SEP during the adoption of VL-Bus, engaged in unfair methods of competition, and infringed Section 5 of the FTCA.

Broadcom Corp. v Qualcomm Inc. relates to the 3G/ UMTS standard developed by ETSI (and other SSOs) and Qualcomm's relevant SEPs protecting the wideband code division multiple access (WCDMA) technology. Broadcom claimed that Qualcomm had intentionally acquired monopoly power through deception, as it licensed its SEPs on non-FRAND terms despite the FRAND commitment.⁹² Broadcom further alleged that Qualcomm had increased its market share in the market for CDMA-path chipsets by leveraging its SEPs (i.e. cellular telephone manufacturers purchase these chipsets from Qualcomm, instead of its rivals paying royalties above the FRAND level).⁹³ It also argued that Qualcomm had aimed to monopolise the market through the acquisition of Flarion Technologies, the owner of technologies expected to be the foundation of the next generation of GSM standards (e.g. 4G).⁹⁴ The Court concluded that Qualcomm monopolised the WCDMA technology market essential to the 3G/UMTS standard and infringed Section 2. In that judgment, the Court referred to the factual background of the matter and stated that Qualcomm intentionally gave a false promise regarding the FRAND license, misled the SSO about the incorporation of its technology into the standard, and then breached its commitment.⁹⁵ This was categorised as *the intentional deception exception* to the general rule that breaches of FRAND commitments do not give rise to antitrust liability.⁹⁶

In the US, SEP owners can also face fraud claims. In *Rambus Inc. v Infineon Technologies AG*, Rambus faced a fraud claim as it had not disclosed its potential SEPs during the development of the standard and then attempted to enforce those SEPs against Infineon. The Court assessed whether Rambus had knowingly not disclosed its potential SEPs to mislead the SSO/members.⁹⁷ The case concluded in favour of Rambus.

Fraud claims were also raised in *Chrimar Holding v ALE USA*,⁹⁸ which related to four patents essential to the IEEE's Power over Ethernet (PoE) 802.3af and 802.3at

⁹² *Broadcom Corp. v Qualcomm Inc.* (n 16) 304.

⁹³ *ibid* 304.

⁹⁴ *ibid* 305, 322.

⁹⁵ *ibid* 315-316.

⁹⁶ *F.T.C. v Qualcomm Inc.*, 969 F.3d 974 (9th Cir. 2020), 997.

⁹⁷ *Rambus Inc. v Infineon Technologies Ag*, 318 F.3d 1081 (2003), 1096.

⁹⁸ *Chrimar Holding Company, LLC v ALE USA Inc.*, 732 Fed.Appx. 876 (2018).

(amendments to the former) standards.⁹⁹ While PoE 802.3af was developed, Chromar had not submitted a LOA, which is submitted by members to confirm that they are not aware of any potential SEPs they own/control after a reasonable and good-faith inquiry, and then sued ALE for patent infringement.¹⁰⁰ Whether the IEEE's bylaws *require*, or only *request and encourage*, the submission of a LOA from potential SEP owners that they will license their SEPs on reasonable terms and conditions to include proprietary technologies into standards was one of the disputed points at trial, but not appealed.¹⁰¹ ALE asserted counterclaims of, *inter alia*, breach of contract with IEEE (ALE as a third-party beneficiary), fraud, and violation of Section 2.¹⁰² The jury's verdict was in favour of Chromar on the fraud and breach of contract issues, and ALE appealed the jury instruction on the fraud claim: in particular, the allegedly improper exclusion of the possibility that Chromar might have committed fraud by failing to submit a LOA for the SEPs.¹⁰³ The Court reviewed this procedural point under Texas law, and concluded in favour of Chromar.¹⁰⁴

In *N-Data*,¹⁰⁵ the FTC decided that N-Data violated Section 5 of the FTCA by engaging in unfair acts or practices and unfair methods of competition as it threatened to enforce/enforced its SEPs against the (potential) licensees after the industry was locked into the standard.¹⁰⁶ IEEE adopted the 802.3 standard (i.e. Fast Ethernet) and incorporated the NWay technology protected by two patents into the standard.¹⁰⁷ National Semiconductor Corporation (National) was the owner of these patents back then and gave a licensing commitment (i.e. that the SEPs would be licensed to any requesting party for a one-time fee of \$1000) to IEEE during the standardisation process.¹⁰⁸ The standard was published in 1995, and, by 2001, the standard was widely accepted and implemented by the industry and there were no alternative technologies to NWay.¹⁰⁹

⁹⁹ *ibid* 879.

¹⁰⁰ *ibid* 880.

¹⁰¹ *ibid*.

¹⁰² *ibid*.

¹⁰³ *ibid* 881-882, 890.

¹⁰⁴ *ibid* 889-891.

¹⁰⁵ *In the Matter of Negotiated Data Solutions LLC*, File no. 0510094 (2008).

¹⁰⁶ *ibid* [31], [38], [39].

¹⁰⁷ *ibid* [6]-[15].

¹⁰⁸ *ibid* [12]-[13].

¹⁰⁹ *ibid* [16], [21].

National assigned the SEPs to Vertical Networks, Inc. (Vertical), and Vertical acknowledged the SEP licensing commitment.¹¹⁰ In 2002, Vertical contacted IEEE to alter the original licensing commitment and requested royalties on a per-unit basis for the standard-compliant products from some entities allegedly infringing the SEPs.¹¹¹ Considering Vertical's threats to enforce/enforcement of its SEPs and the significant costs associated with abandoning NWay technology, several entities entered into licence agreements and paid royalties far exceeding the original fee of \$1000.¹¹²

Vertical assigned the SEPs to N-Data in 2003, and N-Data continued to assert the patent infringement claims despite the original licensing commitment.¹¹³ The FTC concluded that some of the anticompetitive effects of Vertical/N-Data's activities, such as increased royalty rates and reduction in the output of standard-compliant products, prejudiced the consumers.¹¹⁴ Decreasing initiatives to produce standard-compliant products, chilling participation in standardisation in general, and prejudicing the reliability of the standardisation system, were also listed as some of the actual and potential anticompetitive effects of Vertical/N-Data's conduct.¹¹⁵

There are also some instances where a SEP owner cannot enforce its patent rights, as illustrated in the following cases.

¹¹⁰ *ibid* [22]-[24].

¹¹¹ *ibid* [26]-[28].

¹¹² *ibid* [31]-[32].

¹¹³ *ibid* [33]-[35].

¹¹⁴ *ibid* [36], [37].

¹¹⁵ *ibid* [37]; Dissenting Statement of Chairman Majoras *in the Matter of Negotiated Data Solutions LLC*: Majoras dissented that the facts of the case do not support the antitrust liability under Section 5 of the FTCA. They stated that the case differs from *Dell* and *Rambus* as National did not deceive IEEE to include its patented technology into the standard, and even they made a licensing commitment. They also highlighted that IEEE accepted Vertical's request for altering the original commitment after the proposal was changed according to its requests. They explained that the FTC, only in limited circumstances, invokes Section 5 of the FTCA for conduct that does not violate Section 2, and the current case where Vertical would like to renegotiate the licence terms due to a business reason could not be considered as such a limited circumstance. Also, they disagreed with the majority's consideration of large and sophisticated entities as consumers and intervening in a commercial transaction using the FTC's consumer protection authority. Majoras asserted that there is no injury due to Vertical/N-Data's conduct. Finally, they stated that IEEE should have foreseen that its members would like to change their prior licensing commitments and taken necessary precautions to protect its members from these kinds of changes; Dissenting Statement of Commissioner William E. Kovacic *in the Matter of Negotiated Data Solutions LLC*: In the same vein with Majoras, Kovacic dissented as they did not think N-Data/Vertical violated Section 5 of the FTCA. They notably stated that it was unreasonable to apply unfair methods of competition and unfair acts or practices theories separately.

Qualcomm Inc. v Broadcom Corp. was a patent infringement action Qualcomm took against Broadcom based on its standard-compliant products. Broadcom used the defence that the patents could not be enforced, as Qualcomm had not disclosed them during the standard-setting process. The Court accepted the defence on the ground that Qualcomm had not disclosed them despite its disclosure duty.¹¹⁶

In *Apple Inc. v Motorola Inc.* where, *inter alia*, Motorola's request for a SEP-based injunction was discussed, the Court affirmed: the district court's judgment of not granting a permanent injunction in favour of the SEP owner, Motorola, given its FRAND commitment; and, that Apple was a willing licensee as there was no evidence showing that Apple had been unilaterally refusing to agree to a deal.¹¹⁷

There are also judgments where certain conduct of SEP owners qualified as a breach of contract, as illustrated in the following cases.

Microsoft Corp. v. Motorola Inc. (2012) relates to the ITU's H.264 standards and Motorola's relevant SEPs encumbered with FRAND commitments. Microsoft filed a breach of contract claim on the ground that Motorola's licensing terms were unreasonable and obtained a preliminary injunction preventing Motorola from enforcing an injunction granted in Germany (based on SEPs related to the same standard granted in Germany).¹¹⁸ The Court accepted the District Court's logic that there was a binding contract between the SSO and Motorola that Microsoft could enforce as a third-party beneficiary, so the District Court enforced the private law of contract rather than German patent law.¹¹⁹ In a related case (2015) between the same parties, the Court affirmed the District Court's judgment finding that Motorola was in breach of contract by requesting high royalties and using the injunction tool to create pressure to extract more favourable licensing terms, rather than to compensate its damages/prevent further damages.¹²⁰ This is mainly because it is harder for SEP owners who gave a FRAND commitment to establish

¹¹⁶ *Qualcomm Incorporated v Broadcom Corp.* (n 17).

¹¹⁷ *Apple Inc. v Motorola, Inc.*, 757 F.3d 1286 (2014), 1331-1332: The Court did not approve the district court's approach regarding a *per se* rule that injunctions are unavailable for FRAND-encumbered SEPs and stated that injunctions for SEPs may be justified if an infringer refuses to license the SEP on FRAND terms or unreasonably delays licensing negotiations; For Chief Judge Rader's dissenting opinion on the denial of Motorola's request for an injunction see US Court of Appeals, Federal Circuit - *Apple Inc. v Motorola Inc.*, 757 F.3d 1286 (2014), 1332-1334.

¹¹⁸ *Microsoft Corp. v Motorola, Inc.* (n 3) 877-881.

¹¹⁹ *Microsoft Corp. v Motorola, Inc.* (n 3) 885.

¹²⁰ *Microsoft Corp. v Motorola, Inc.*, 795 F.3d 1024 (2015).

the irreparable harm required to grant an injunction, and, in the current case, it was considered that had Motorola accepted the FRAND rates it would be fully compensated for the infringing use.¹²¹

*Continental Automotive Systems, Incorporated v Avanci, L.L.C.*¹²² was a dispute between a leading provider of automotive components including connectivity products utilising 2G, 3G and 4G cellular standards, Continental and a licensing agent for a patent pool of SEPs incorporated into cellular standards for connected devices, Avanci (and the SEP owners, Nokia Corporation entities, PanOptis Equity Holdings entities and Sharp Corporation).¹²³ All the patents for which Avanci acted as the licensing agent were encumbered by FRAND commitments, but as per the agreement between the SEP owners and Avanci, Avanci could license the SEPs only to car manufacturers or OEMs.¹²⁴ However, the SEP owners were also free to license their SEPs to anyone individually.¹²⁵ Continental claimed that the refusal to license the SEPs on FRAND terms to Continental breached the contract between the SEP owners and the SSOs and violated Section 1 and Section 2. The appeal was on Continental's standing to bring the claims.¹²⁶

The Court considered two issues (i) whether Continental was a third-party beneficiary to the contracts between the SEP owners and the SSOs, and (ii) if Continental was a third-party beneficiary, whether the SEP holders had fulfilled their obligations under these contracts.

Regarding the first point, the Court referred to *Microsoft Corp. v. Motorola Inc.*, observing that Microsoft was a third-party beneficiary to the FRAND commitments made by Motorola.¹²⁷ The Court stated that Continental was not in a similar position to Microsoft (i.e. an intended beneficiary of the contracts obliging the SEP owners to license the SEPs on FRAND terms) in the current case, as it was not a member of the relevant SSOs and did not need licences for the SEPs as Avanci/the SEP owners licensed the SEPs to OEMs.¹²⁸

¹²¹ *ibid* 1046.

¹²² *Continental Automotive Systems, Inc. v Avanci*, 27 F.4th 326 (5th Cir. 2022).

¹²³ *ibid* 329-331.

¹²⁴ *ibid* 330.

¹²⁵ *ibid* 330-331.

¹²⁶ *ibid* 331.

¹²⁷ *ibid* 334.

¹²⁸ *ibid*.

In terms of the second point, the Court decided that even if Continental had been a third-party beneficiary, it did not suffer any injury as Avanci/the SEP owners were making SEP licences available to Continental on FRAND terms by licensing them to OEMs (i.e. receiving the benefit of the contractual right indirectly).¹²⁹ Further, the fact that the SEP owners had not sued Continental for patent infringement made it more difficult to establish an injury in fact.¹³⁰

Refusal to license and margin squeeze claims in the context of SEP licensing were discussed in *FTC v Qualcomm*, which essentially relates to the practice of licensing the CDMA and LTE patent portfolios (including SEPs) only to OEMs.¹³¹ Qualcomm both owns SEPs related to CDMA and LTE technologies (i.e. licensing business) and manufactures modem chips enabling cellular devices to practice these technologies (i.e. modem chip business).¹³² While the company had a monopoly in the CDMA and LTE modem chip markets until 2016, at the time of the judgment its market shares were 79% and 64% respectively.¹³³

Qualcomm licensed its patent portfolios exclusively at the OEM level to maximise its returns on its patented technologies while avoiding patent exhaustion.¹³⁴ Although Qualcomm did not license its portfolios to chip manufacturers, it promised not to assert these patents if they agreed not to sell chips to unlicensed OEMs.¹³⁵ Also, Qualcomm refused to sell modem chips to OEMs if they did not have licences for its portfolios (i.e. a 'no license, no chip' policy).¹³⁶ This practice was identified as chip-supplier-neutral given that regardless of the source of their chips, OEMs were required to license Qualcomm's SEPs.¹³⁷

¹²⁹ *ibid* 334-335.

¹³⁰ *ibid* 335.

¹³¹ *F.T.C. v Qualcomm Inc.* (n 96) 984; 'Statement by Acting Chairwoman Rebecca Kelly Slaughter on Agency's Decision not to Petition Supreme Court for Review of Qualcomm Case' (2021) <<https://www.ftc.gov/news-events/news/press-releases/2021/03/statement-acting-chairwoman-rebecca-kelly-slaughter-agencys-decision-not-petition-supreme-court>> accessed 16 March 2022: The FTC announced that they would not petition the Supreme Court; After the FTC had sued Qualcomm, several follow-on consumer antitrust actions were filed, which were consolidated as a class action in the US District Court for the Northern District of California, for the appeal on the certification of the class see *Stromberg v Qualcomm Inc.*, 14 F.4th 1059 (9th Cir. 2021).

¹³² *F.T.C. v Qualcomm Inc.* (n 96) 983.

¹³³ *ibid* 983-984.

¹³⁴ *ibid* 984.

¹³⁵ *ibid* 984-985.

¹³⁶ *ibid* 985.

¹³⁷ *ibid* 984.

Qualcomm's competitors in the modem chip markets contended that Qualcomm's business practice, particularly its refusal to license its SEPs, were anticompetitive and breached Qualcomm's commitments to the relevant SSOs, the TIA and the ATIS.¹³⁸ In return, Qualcomm argued that (i) it had no duty to deal with its competitors, (ii) OEM-level licensing was consistent with its FRAND commitments as only OEM products (e.g. cellphones, tablets) practice the SEPs and it did not assert its SEPs against rival chipmakers.¹³⁹ The FTC sued Qualcomm for violation of Section 1 and Section 2 and Section 5 of the FTCA; the District Court decided in favour of the FTC and Qualcomm appealed.¹⁴⁰

On appeal, whilst agreeing with the District Court's relevant market definition (i.e. the market for CDMA modem chips and the market for premium LTE modem chips), the Court criticised the fact that the District Court's analysis extended beyond these markets and considered Qualcomm's practices' effects on OEMs which are *customers* of Qualcomm, not *competitors*. Consequently, the Court limited its analysis to the impact of Qualcomm's practices in the relevant markets.¹⁴¹ The Court also reiterated the view that courts need to refrain from using antitrust laws to remedy contractual disputes as much as possible.¹⁴²

The refusal to license claim was reviewed in two stages: first, considering the caselaw on the antitrust duty to deal, which is explained under 2.1. above, and then in the context of breach of contract.

The Court compared Qualcomm's refusal to license its SEPs to chip manufacturers with the *Aspen Skiing* exception to no duty to deal and considered the Supreme Court's *Trinko* warning that the exception should be applied in rare circumstances.¹⁴³ Here, the focal point of the Court's analysis was the fact that

¹³⁸ *ibid* 985-986.

¹³⁹ *ibid* 986.

¹⁴⁰ *ibid* 986-987; The FTC also relied on 15 US Code Section 45(a); On appeal, the DOJ filed a statement of interest in favour of Qualcomm in arguing for the stay. Among other things, the DOJ argued that *Aspen* and *Trinko* were applied incorrectly.

¹⁴¹ *F.T.C. v Qualcomm Inc.* (n 96) 993.

¹⁴² *ibid* 997.

¹⁴³ *ibid* 993-994.

Qualcomm did not terminate a profitable practice (i.e. sacrificed short-term benefits) to obtain higher profits in the long run.¹⁴⁴ Instead the Court was convinced that Qualcomm's change in licensing policy was a response to developments in patent law: in particular, the exhaustion doctrine which made the provision of non-exhaustive licences in the form of royalty agreements harder for Qualcomm.¹⁴⁵ Also, the Court pointed out that Qualcomm did not single out any chip manufacturer, applied its policy equally, and did not assert its SEPs against them. Analogous to the no licence no chip policy, the Court characterised this approach as no license, no problem.¹⁴⁶ It was decided that Qualcomm was not under a duty to license its SEPs to its competitors in the relevant chip markets and its novel licensing policy, which was also followed by other SEP owners like Ericsson and Nokia, did not violate the Sherman Act.¹⁴⁷

Then, the Court moved to assess whether Qualcomm's refusal to license constitutes a breach of the FRAND commitment and, if so, whether this was a breach of Section 2. After stating that the FTC could not satisfactorily explain the breach, the Court pointed out that the FTC argued that the breach facilitated a surcharge collected from OEMs which are Qualcomm's customers, not rivals, and naturally outside the scope of the relevant markets.¹⁴⁸ The Court also noted that Qualcomm collected royalties from all OEMs that licensed its patents (not just its rivals' customers) and allowed its competitors to practice SEPs. Besides, the Court considered Qualcomm's procompetitive justifications (i.e. efficiencies and increased profits) for licensing at the OEM level.

Although the FTC drew analogies with *Broadcom Corp. v Qualcomm Inc.* to support its view that a breach of FRAND commitment may be an antitrust violation, the Court was not convinced due to the factual differences between the cases.¹⁴⁹ Unlike in the earlier *Broadcom* case, here the Court decided there was no intentional deception of the SSOs, and no discriminatory pricing applied by Qualcomm.¹⁵⁰

The Court refused the FTC's claim that Qualcomm's royalty rates imposed an anticompetitive surcharge on its rivals' sales by charging ultralow prices for its own

¹⁴⁴ *ibid.*

¹⁴⁵ *ibid.*

¹⁴⁶ *ibid* 995.

¹⁴⁷ *ibid* 994-995.

¹⁴⁸ *ibid* 995-996.

¹⁴⁹ *ibid* 996.

¹⁵⁰ *ibid* 996-997.

modem chips (i.e. squeezing their profit margins), on the ground that margin squeeze is not recognised as a basis for antitrust liability.¹⁵¹ Also, it was stated that the margin squeeze claim contradicted the FTC's argument that Qualcomm charged monopoly prices on modem chips and that even monopolies could lower their prices in response to competitor's lower price (i.e. meeting competition).¹⁵² The Court pointed out that, actually, OEMs had been disciplining Qualcomm's pricing by threatening to dispute the rates and switch to another supplier, and that Apple indeed switched to Intel in 2014; this showed that there was no foreclosure in the modem chip markets.¹⁵³ Whilst discussing the royalty rates, the Court also made it clear that basing patent royalties on the final product's sales price is not inherently anticompetitive and, therefore, SEP owners do not need to prove that the fair value of their portfolios corresponds to the prices the market is willing to pay to avoid antitrust liability.¹⁵⁴

Overall, the Court concluded that Qualcomm's novel practices were disruptive, rather than anticompetitive, which would change market dynamics and be beneficial to consumers in the long run.¹⁵⁵ They 'decline[d] to ascribe antitrust liability in these dynamic and rapidly changing technology markets without clearer proof of anticompetitive effect.'¹⁵⁶

¹⁵¹ *ibid* 1000-1001.

¹⁵² *ibid* 1001.

¹⁵³ *ibid* 1001-1002.

¹⁵⁴ *ibid* 999.

¹⁵⁵ *ibid* 1003, 1005.

¹⁵⁶ *ibid* 1003; For a commentary supporting the Court's conclusion see Aminta Rafflovich and Steven Schwartz, 'Antitrust Analysis of FRAND Licensing Post-*FTC v Qualcomm*' (2021) 31 No 1 Competition: J. Anti. & Unfair Comp. L. Sec. Cal. L. Assoc. 138: They pointed out that, although many antitrust cases arise out of contracts, this case distinguishes as here, the FTC claimed a breach of the contract between the SSO and Qualcomm, not the contract itself, caused the harm. Although they acknowledged that supra-FRAND royalties might be anticompetitive in certain circumstances, for example, where there is predatory pricing, tying or where the SEP owner prevents OEMs from challenging the licence agreements, they believed the FTC could not successfully have argued this point. Finally, they asserted that in the current circumstances, Qualcomm's policy to license its SEPs only to OEMs is not anticompetitive; For a criticism of the judgment see Herbert Hovenkamp, 'FRAND and Antitrust' (2020) 105 Cornell L. Rev. 1683: Hovenkamp focused on the question of when a breach of a FRAND commitment constitutes an antitrust violation and criticised the fact that the Court's decision makes it harder to successfully argue antitrust violations where there is a FRAND commitment. Also, in reference to *Aspen*, they argued that Qualcomm's refusal to license anyone other than OEMs, in breach of its FRAND commitments, threatens to distort competition, and the Court should have assessed the potential anticompetitive effects of Qualcomm's practice. Furthermore, as regards the Court's assessment that OEMs are customers and not within the defined relevant market, Hovenkamp argues that the Court ignored the consumer welfare objective of antitrust law; Matthew Grillo, 'You've Got a FRAND in Me: Rethinking FRAND Agreements & the Role of Antitrust in Light of *FTC v Qualcomm*' 74 Rutgers U. L. Rev. 433: Grillo characterised Qualcomm's conduct as a nuanced patent holdup and argued that the Court failed to apply the *Aspen* exception properly by excluding the assessment of whether Qualcomm was contractually obliged to license its SEPs to anyone other than OEMs. As Hovenkamp, Grillo also thinks the Court overlooked the consumer welfare objective of antitrust law; Carl Shapiro and Mark A Lemley, 'The Role of Antitrust in Preventing Patent Holdup' (2020) 168 U Pa L Rev 2019: They think the Court erred in its finding that Qualcomm's royalties are chip-supplier neutral as the royalty surcharge, which is charged when an OEM purchases modem chips from Qualcomm's rivals, makes trade with rival modem-chip suppliers less attractive for OEMs. They also stated that the Court had rejected the well-established principle that competition can be harmed by harming consumers.

3.1.3. THE LINK BETWEEN SEP LICENSING ISSUES AND IPR POLICY

In principle, SSOs require patent owners to disclose their potential SEPs in a timely manner and license them either royalty-free or on FRAND terms. For example, the JEDEC Manual No. 21S, Patent Policy (JEDEC Patent Policy) Rule 8.2.3 provides that, at each committee meeting, the chairperson shall remind the members' representatives that they are obliged to inform the committee of any potential SEPs that the member owns or controls.¹⁵⁷

In principle, giving a FRAND commitment is a fundamental requirement to incorporate a patent into a standard, and, without committing to licence the potential SEP on FRAND terms (or royalty-free), SSOs do not incorporate the patented technology into standards. Again, for example, the JEDEC Patent Policy Rule 8.2.3.1 requires committees developing standards to consider other technical alternatives to the potential SEP if the SEP owner is not willing to grant a licence on FRAND terms.¹⁵⁸

Despite these precautions, SEP-related licensing issues cannot be eliminated entirely mainly because of the changing dynamics of standardisation (e.g. SSO members' business models, more complicated standards and patents). Still, IPR policies aim to ensure that SEPs are licensed efficiently and they are one of the main sources considered by the US courts and agencies when assessing SEP-related conduct.

Next, the US appellate courts' and agencies' judgments, decisions and orders discussing the relationship between IPR policy and SEP licensing (e.g. SEP disclosure duty and breach of FRAND commitment) are analysed.

¹⁵⁷ JEDEC Manual of Organisation and Procedure [November 2017] <<https://www.jedec.org/sites/default/files/JM21T.pdf>> accessed 5 June 2022, 25: Rule 8.2.3 states that the members must disclose any potential SEPs that they own or control and known to their representatives as early as reasonably possible.

¹⁵⁸ *ibid* 26.

3.1.3.1. FTC in the Matter of Dell Comp. Corp.

Dell did not disclose its SEP during the adoption of the VL-Bus standard and then sought to exploit its patent rights by contacting some of the VESA members implementing the standard. This was the first FTC complaint related to the behaviours of SEP owners in ICT standardisation.¹⁵⁹

The FTC mainly focused on the issue that the representative of Dell in the committee setting the standard certified that VL-Bus was not infringing any of Dell's patents when the standard was approved.¹⁶⁰ The FTC argued that as a result of Dell's failure to disclose its SEP: (i) the adoption of the VL-Bus standard was hindered; (ii) systems utilising the standard were avoided; (iii) costs of implementing the standard and developing computing bus designs were raised; and (iv) incentives to participate in standardisation activities were chilled.¹⁶¹ The FTC and Dell settled the case as Dell agreed not to enforce its SEP against (potential) licensees of VL-Bus.¹⁶²

The FTC provided some reasoning while responding to the comments submitted for the consent order in its statement. In the response, they stated that if Dell had disclosed its SEP during the adoption of the VL-Bus standard, the VESA would have implemented a non-proprietary technology, and they had considered the remedy prohibiting Dell from enforcing its SEP against those implementing the standard appropriate.¹⁶³ The FTC also clarified that they do not intend to create any general rules in terms of the regulation of SEPs in a standard-setting environment and highlighted that the relief was made only considering the case-specific facts.¹⁶⁴

¹⁵⁹ *In the Matter of Dell Computer Corporation* (n 90) 617; Although, The FTC dealt with a SEP-related issue in *the Matter of Robert Bosch GmbH*, 155 F.T.C. 713 (2013), there is no reference to this case in this research as it is not in the ICT sector.

¹⁶⁰ *In the Matter of Dell Computer Corporation* (n 90) 617.

¹⁶¹ *ibid* 618.

¹⁶² *ibid* 620-621: More specifically, Dell agreed to cease any actions that it had taken to enforce its SEP, not to enforce the SEP by any means in the future and to cease enforcing/threatening to enforce its patent rights by asserting that the usage of a standard infringes such a patent if Dell failed to comply with its disclosure duty whilst the adoption the relevant standard; *ibid* 619: Given that the case was settled with a consent order, that does not constitute Dell's admission that they violated Section 5 of the FTCA.

¹⁶³ *ibid* 624.

¹⁶⁴ *ibid* 625-626: The FTC stated that with the order, they are not creating general rules mainly related to the following issues - (i) endorsement of non-proprietary standards, (ii) imposing search duty on SSOs' members, (iii) imposing disclosure duty on SSOs' members and (iv) liability for any inadvertent failure to disclose. They also added that the enforcement action strikes the right balance between incentivising participation in standardisation and preventing the risk of SSOs being used as a vehicle for anticompetitive behaviours.

In this precedent-setting case,¹⁶⁵ besides the majority's order, the detailed dissenting statement of Commissioner Mary L Azcuenaga is worth mentioning. Azcuenaga stated that Dell is charged as its representative certified during the voting of the VL-Bus standard that, to the best of their knowledge, Dell does not have any SEPs related to the standard, and they asserted that the FTC's order and statement created confusion about *the duty of care* in the standardisation process.¹⁶⁶ They highlighted that the complaint is not based on the infringement of Section 5 of the FTCA in a traditional sense, and the FTC was trying to create a new antitrust-based duty of care for the standardisation participants.¹⁶⁷

Azcuenaga had concerns as the FTC had not followed the traditional antitrust action path and concluded that Dell infringed antitrust laws without concrete evidence proving that its representative knew about the SEP at the time of the voting of the standard which would indicate that Dell obtained extra market power by intentionally misleading the VESA.¹⁶⁸ They particularly highlighted that imposing a strict disclosure duty on SSOs' members (i.e. creating a strict liability) can chill participation in standard-setting as patent owners with large patent portfolios might prefer not to participate in standardisation so as not to put their IPRs at risk.¹⁶⁹ Azcuenaga argued that the FTC imposed a stricter disclosure duty and harsher remedy (i.e. global royalty-free license) for non-disclosure compared to the VESA's IPR policy, which is more flexible than the FTC's interpretation: in particular, in terms of disclosure and licensing of SEPs.¹⁷⁰ They also referred to the VESA's vague disclosure duty by highlighting that indeed it could have clearly required the representatives of its members to certify that they do not have any potential SEPs and made these certifications binding regardless of any mistakes or subsequent discoveries of SEPs.¹⁷¹

¹⁶⁵ *ibid* 634.

¹⁶⁶ *ibid* 627-628.

¹⁶⁷ *ibid* 627; *ibid* 629: Azcuenaga stated that the FTC should have considered whether Dell had intentionally misled the VESA and whether, as a result, Dell gained market power beyond that conferred by its patent in a traditional antitrust case.

¹⁶⁸ *ibid* 629.

¹⁶⁹ *ibid* 632-633; *ibid* 634-635: Azcuenaga also referred to the comments submitted concerning the consent order and stated that most of the commentators (including significant US SSOs) were also concerned that the order could chill the participation in standardisation, especially for the entities with large patent portfolios. They stated that the ANSI, an accreditation body for developers of national standards in the US, favours the liability in case of non-disclosure if the non-disclosure is intentional and deliberate to gain an unfair advantage.

¹⁷⁰ *ibid* 630, 633; *ibid* 630, 636, 638: Azcuenaga stated that the VESA did not impose a strict disclosure duty to avoid prolonging the voting processes. They also compared the VESA's IPR policy with the ANSI's IPR policy and pointed out that they are pretty similar, and the ANSI offers mechanisms (i.e. SEP owner can still undertake to grant royalty-free or FRAND license) alternative to preventing the enforcement of a SEP altogether, even if it is discovered after the standard is adopted. They added that the VESA's IPR policy could not have dealt with the facts of the case.

¹⁷¹ *ibid* 630.

In terms of acquiring extra market power, Azcuenaga stated that the FTC had failed to identify *the relevant market*¹⁷² and concluded that Dell obtained extra power even though there was no evidence suggesting that Dell obtained the power to control the price of personal computers, restrict their output in any relevant geographic market, or harm consumers or competition by any means.¹⁷³

Azcuenaga was also critical of the assumption that the VESA would have chosen an alternative technology if it had known about Dell's SEP.¹⁷⁴ They argued that the FTC made this assumption without making any technical analysis and showing that there were alternative technologies when the standard was adopted.¹⁷⁵ They also found it troubling that the FTC ignored the significant difference between the disclosure provisions requiring 'the member's knowledge' and 'the member's representative's knowledge' in terms of the scope of the duty, which they thought was crucial to assessing whether non-disclosure was intentional.¹⁷⁶ Further they asserted that the usage of the vague and unfamiliar (legal) term, 'not inadvertent' instead of 'intentional' or 'negligence' to characterise the Dell's behaviour was inappropriate.¹⁷⁷

As a general note, Azcuenaga stated that the FTC should have identified and balanced the competing interests in standardisation rather than punishing Dell disproportionately.¹⁷⁸ They also thought that the FTC is not competent to evaluate the technical aspects and economic value of patents, and this case illustrated its incompetency and inexperience in this area.¹⁷⁹ Finally, given that the case was closed with a consent order, which is not subject to judicial review, they expected the FTC to have been even more diligent.¹⁸⁰

¹⁷² *ibid* 632: Azcuenaga stated that the FTC's statement referred that Dell restricted the competition in the personal computer industry and assumed that the FTC considered the personal computer industry as a relevant market. Nevertheless, they believed that the FTC should have made further explanations to support their allegation that Dell obtained extra market power in that market.

¹⁷³ *ibid* 632.

¹⁷⁴ *ibid* 640.

¹⁷⁵ *ibid* 640.

¹⁷⁶ *ibid* 641.

¹⁷⁷ *ibid* 642.

¹⁷⁸ *ibid* 634: Azcuenaga suggested that it might have been a better solution to modify the standard.

¹⁷⁹ *ibid* 641.

¹⁸⁰ *ibid* 643.

3.1.3.2. Rambus Inc. v Infineon Technologies

As briefly mentioned above, the dispute was that Rambus had not disclosed its potential SEPs during the standardisation process and took a patent infringement action against a potential licensee, Infineon. Infineon alleged that Rambus committed fraud by not disclosing its potential SEPs. The Court considered the IPR policy to determine whether there was an omission in the face of the disclosure duty. More specifically, it considered the IPR policy to decide: (i) whether there was a disclosure duty, and, (ii) if so, whether Rambus breached that duty.

In the judgment, there is a reference to five different documents mentioning a disclosure duty, and the Court quoted three of them as follows:

JEP 21-1, published in October 1993, stated:

EIA and JEDEC standards ... that require the use of patented items should be considered with great care. ... [C]ommittees should ensure that no program of standardization shall refer to a product on which there is a known patent unless all the relevant technical information covered by the patent is known

...

The Chairperson ... must ... call attention to the obligation of all participants to inform the meeting of any knowledge they may have of any patents, or pending patents, that might be involved in the work they are undertaking. Appendix E (Legal Guidelines Summary) provides copies of viewgraphs that should be used at the beginning of the meeting to satisfy this requirement.

The relevant part of Appendix E reads follows:

EIA/JEDEC PATENT POLICY SUMMARY

Standards that call for the use of a patented item or process may not be considered by a JEDEC committee unless all of the relevant technical information covered by the patent or pending patent is known to the committee, subcommittee, or working group.

Appendix E also provided that patentees or applicants must agree to license others to use the patent 'for the purpose of implementing the standard(s).' Thus, Appendix E prohibited standards that "call for use of a patented item or process" unless all information 'covered by the patent or pending patent' was known and a 'license ... for the purpose of implementing the standard(s)' was available under reasonable terms.

Attachment A reads:

EIA Policy

3.4 Patented Items or Processes

Avoid requirements in the EIA Standards that call for use of a patented item or process. No program standard shall refer to a patented item or process unless all of the technical information covered by the patent is known to the formulating committee or working group ... ¹⁸¹

¹⁸¹ *Rambus Inc. v Infineon Technologies Ag* (n 97) 1097-1098.

Given the wording of the extracts above, the Court stated that none of them imposed any direct duty on the SSO's members in terms of disclosing potential SEPs.¹⁸² The Court also took the SSO's membership application and manual excerpts into account and decided that members did not legally agree to disclose their potential SEPs during the standardisation process.¹⁸³ However, even though there was no clear or written disclosure duty in any of the documents related to IPR policy, the Court considered the members' understanding of the IPR policy and considered the wording in Appendix E as imposing a disclosure duty on members.¹⁸⁴

The Court examined the scope of the disclosure duty and stated that the IPR policy was vague on this point. To clarify the scope of the disclosure duty, the Court turned to the members' approach to the language of the IPR Policy and concluded that the IPR policy required the disclosure of patents because, according to members, the language of Appendix E imposes a disclosure duty.¹⁸⁵ Following the same reasoning, it also decided that the disclosure duty covered patents *related to* the standardisation work of the committee, even though the IPR policy did not use the wording '*related to*'.¹⁸⁶ The Court further explained that '... when a reasonable competitor would not expect to practice the standard without a license under the undisclosed claims',¹⁸⁷ it should be accepted that these claims are *related to* the standard and referred to this as an objective standard.¹⁸⁸

The Court also stated that whether a patent is *related to* a standard should depend on its claims rather than its description and drawings, even though the IPR policy was entirely silent on this point. Another issue discussed in the judgment is when the disclosure duty arose, and, since the IPR policy did not include a clear principle in that respect, the Court concluded that the disclosure duty started when the standardisation process formally began.¹⁸⁹

After filling the gaps in the IPR policy, the Court stated that:

¹⁸² *ibid* 1098.

¹⁸³ *ibid*.

¹⁸⁴ *ibid*.

¹⁸⁵ *ibid*.

¹⁸⁶ *ibid* 1098-1100.

¹⁸⁷ *ibid* 1100-1101.

¹⁸⁸ *ibid* 1104: 'The JEDEC policy, though vague, does not create a duty premised on subjective beliefs. JEDEC's disclosure duty erects an objective standard. It does not depend on a member's subjective belief that its patents do or do not read on the proposed standard.'

¹⁸⁹ *ibid* 1101-1102.

‘In this case there is a staggering lack of defining details in the EIA/JEDEC patent policy. ... A policy that does not define clearly what, when, how, and to whom the members must disclose does not provide a firm basis for the disclosure duty necessary for a fraud verdict. Without a clear policy, members form vaguely defined expectations as to what they believe the policy requires ... JEDEC could have drafted a patent policy with a broader disclosure duty. ... It could have. It simply did not.’¹⁹⁰

In this case, the Court concluded that Rambus did not breach its disclosure duty because there was no clear and substantial evidence supporting the claims that Rambus’s patents were related to the synchronous DRAM (SDRAM) standard and Infineon could not prove that Rambus had a disclosure duty before the standardisation process formally started for the DDR-SDRAM standard.¹⁹¹ However, the Court stated that, ‘Rambus’s actions might constitute fraud under a different patent policy; however, they do not constitute fraud under this policy’.¹⁹²

3.1.3.3. Rambus Inc. v FTC

The factual background of this case is the same as *Rambus Inc v Infineon Technologies* above. Here, the FTC considered the issue of whether Rambus¹⁹³ had engaged in a deceptive course of conduct in the JEDEC’s standard-setting process and violated Section 5 of the FTCA.¹⁹⁴ Particularly, Rambus’ conduct during and after the adoption of the JEDEC’s standards, SDRAM, DDR-SDRAM and DDR2 SDRAM were examined to determine whether Rambus monopolised four technology markets¹⁹⁵ through its SEPs. The FTC made

¹⁹⁰ *ibid* 1102.

¹⁹¹ *ibid* 1103-1105.

¹⁹² *ibid* 1105; David Alban, ‘Rambus v Infineon: Patent Disclosures in Standard-Setting Organizations’ (2004) 19 *Berkeley Tech. L.J.* 309, 327-331: Alban stated that even though the JEDEC’s IPR policy discouraged proprietary standards unless the technical working committee knew about the SEP and its owner made a licensing commitment, the Federal Circuit erroneously concluded that Rambus did not commit fraud. They believed that the Court considered there was no evidence showing that the JEDEC would have enacted a different standard if they had known about the Rambus’ SEPs. However, they argued that the inadmissibility of this, given that fraud only requires omission and reliance, and Rambus failed to disclose its SEPs. Alban saw this judgment as the Court’s reaction to the criticisms of the Dell case. However, they reiterated that creating a narrow disclosure duty and allowing members to conceal their potential SEPs until the vote on the final standard creates a loophole and enables abusive behaviours (e.g. lobbying for a standard including the SEP and withdrawing from the SSO before the final vote, avoiding disclosure and licensing commitment); Brian Dean Abramson, ‘The Patent Ambush: Misuse or Caveat Emptor?’ (2011) 51 *IDEA* 71, 103: Abramson stated that the likelihood of adopting standards including patented technologies increases when SSOs aim to adopt technologically advanced standards. They argued that, due to the intention of adopting prospective and aspirational standards, the JEDEC would have adopted proprietary standards even if they had drafted their standards to avoid the Rambus patents.

¹⁹³ FTC Opinion in the Matter of Rambus Inc. (n 74) 5: Rambus is a non-practising entity (NPE).

¹⁹⁴ *ibid* 14.

¹⁹⁵ *ibid* 5-7: Latency technology, burst length technology, data acceleration technology and clock synchronisation technology.

an unfavourable decision against Rambus and decided on a remedy in its Final Order.¹⁹⁶ On denial of Rambus' Petition for Reconsideration by the Commission,¹⁹⁷ Rambus appealed the Final Order and the denial of reconsideration.

The Court considered the disclosure duty to comment on whether Rambus engaged in unfair methods of competition (i.e. deceptive acts) by not disclosing its potential SEPs.¹⁹⁸ In that context, the Court reviewed the IPR policy to see whether the disclosure duty covered unfiled amendments to patent applications and when the disclosure duty started.¹⁹⁹

In order to determine whether the disclosure duty covered unfiled amendments to patent applications, the Court took the IPR policy requiring the disclosure of granted patents and pending patent applications, which it described as *most disclosure-friendly* (i.e. providing a stricter disclosure duty than other IPR policies), and members' testimonies referred to in the FTC Opinion into account²⁰⁰ as the IPR policy was not clear in that respect.²⁰¹ However, considering the testimonies, the Court concluded that there was no consensus among the members on the issue of whether the disclosure duty covered unfiled amendments to patent applications. Consequently, the Court decided that the

¹⁹⁶ *In the Matter of Rambus Incorporated*, 2007-1 Trade Cases P 75585 (2007) (Final Order); Alden F Abbott, 'Standard-Setting Disclosure Policies: Evaluating Antitrust Concerns in Light of Rambus' (2002) 16-SUM Antitrust 29, 34-35: Abbott evaluated the FTC's Rambus Complaint dated 18.06.2002 (Docket No. 9302) and stated that in this complaint, the FTC did not make any suggestions regarding the adoption of disclosure provisions by SSOs. However, they highlighted that whenever an SSO member fails to comply with an IPR policy and if that behaviour harms consumers, it is at risk of facing antitrust liability. To avoid that potential liability, they suggested that SSO members do their best to abide by IPR policies in good faith. Abbott also stated that the issue of whether disclosure provisions should be implemented and, if implemented, their details should be left to SSOs' and their members' discretion given that they know the dynamics of the industries they operate better than anyone else and that one size fits all policy dictated by the courts/agencies would not be efficient; M Sean Royall, 'Standard Setting and Exclusionary Conduct: The Role of Antitrust in Policing Unilateral Abuses of Standard-Setting Process' (2004) 18-SPG Antitrust 44: Considering the FTC's Rambus Complaint dated 18.06.2002 (Docket No. 9302), Royall evaluated the issue of when and under what circumstances, deceptive unilateral conduct of an undertaking affecting standardisation can give rise to antitrust liability. They mainly focused on the issues of (i) whether the undertaking aims to exclude the competitors through this conduct for a reason other than efficiency, (ii) whether the conduct is misleading, (iii) whether the undertaking violates the disclosure duty imposed by the SSO and (iv) even though the conduct is not literally against the SSO's provisions, whether, in essence, it distorts SSOs' operation and restricts competition. They advocated that even an undertaking complying with the SSO's provisions literally should not be able to avoid an antitrust liability if it subverts the purposes of standardisation and, in this way, gains an anticompetitive advantage. Interestingly, in assessing antitrust liability, Royall suggested that one should consider that the standard-setting environment has unique dynamics and is different from the competitive environments of the conventional markets.

¹⁹⁷ *In the Matter of Rambus Incorporated*, 9302 (2007) (Order Granting in Part and Denying in Part Respondent's Petition for Reconsideration of the Final Order and Granting Complaint Counsel's Petition for Reconsideration of Paragraph III.C. of the Final Order).

¹⁹⁸ *Rambus Inc. v F.T.C.* (n 70) 467-468.

¹⁹⁹ *ibid* 467-469.

²⁰⁰ FTC Opinion *in the Matter of Rambus Inc.*, 2006-2 Trade Cases P 75364 (2006).

²⁰¹ *Rambus Inc. v F.T.C.* (n 70) 468.

disclosure duty could not be stretched to cover unfiled amendments to patent applications, given the wording of the IPR policy and members' split opinions regarding the issue.²⁰²

Similarly, the Court stated that the FTC's aggressive interpretation of the IPR policy to determine when the disclosure duty started was erroneous.²⁰³ The Court concluded that it is not reasonable to expect members, including Rambus, to disclose potential SEPs so early with the anticipation that these might be someday formally proposed for standardisation.²⁰⁴

The Court also highlighted the critical role of a clear IPR policy for efficient collaboration between SSO members with the following statement:

One would expect that disclosure expectations ostensibly requiring competitors to share information that they would otherwise vigorously protect as trade secrets would provide 'clear guidance' and 'define clearly what, when, how, and to whom the members must disclose.' ... In any event, the more vague and muddled a particular expectation of disclosure, the more difficult it should be for the Commission to ascribe competitive harm to its breach.²⁰⁵

3.1.3.4. Qualcomm Inc. v Broadcom Corp.

This was a patent infringement case taken by Qualcomm against Broadcom in relation to the latter's standard-compliant products. Broadcom used the defence that the patents that Qualcomm relied on could not be enforced as Qualcomm did not disclose them during the standardisation process.

In line with *Rambus Inc. v Infineon Technologies* judgment, the Court examined whether there was a disclosure duty imposed by a written IPR policy and, if so, what its scope was given that the relevant IPR policy was not clear-cut.

Initially, the Court determined that the following part of the IPR policy was at the centre

²⁰² *ibid* 468.

²⁰³ *ibid* 469.

²⁰⁴ *ibid* 469.

²⁰⁵ *ibid* 468 (footnotes omitted).

of the disclosure duty discussion:

One of the key inquiries regarding the meaning of the written JVT IPR policies centres on the following language of subsection 3.2 of the JVT ToR: 'According to the ITU-T and ISO/IEC IPR policy, *members/experts are encouraged to disclose as soon as possible* IPR information (of their own or anyone else's) associated with any standardization proposal (of their own or anyone else's). *Such information should be provided on a best effort basis*'.²⁰⁶

The biggest discussion was about the wording of *encouraged to* and *best effort*, as Qualcomm argued that these suggest that the SSO did not impose a disclosure duty, while Broadcom claimed the opposite. The Court stated that *encouraged* applies to the timing of the disclosure, not to the disclosure duty itself, and concluded that there was a disclosure duty under the written IPR policy.²⁰⁷

Then, the Court moved to consider the members' understanding of the disclosure duty and accepted that the members treated the IPR policy as imposing a disclosure duty. Hence, the members' understanding further enhanced the affirmative conclusion as to the existence of a disclosure duty.²⁰⁸

The Court followed the reasoning of *Rambus Inc. v Infineon Technologies* while setting the scope of the disclosure duty and decided that the duty requires the disclosure of patents that 'reasonably might be necessary' to practice a standard.²⁰⁹

3.1.3.5. Microsoft Corp. v. Motorola Inc.

The Court examined the issue of whether the District Court abused its discretion by granting an injunctive relief to prohibit a patentee, Motorola, from enforcing the injunctive relief granted by a German court in a patent infringement action. The IPR policy of the relevant SSO was considered to determine whether it specified how FRAND

²⁰⁶ *Qualcomm Incorporated v Broadcom Corp.* (n 17) 1013.

²⁰⁷ *ibid* 1014.

²⁰⁸ *ibid* 1015: In *Rambus Inc. v Infineon Technologies*, the Federal Circuit decided that there is a disclosure duty given the unclear written IPR policy and the members' understanding, even though it is impossible to accept that there is such a duty just considering the written IPR policy. However, in *Qualcomm Inc. v Broadcom Corp.*, the Federal Circuit already accepted that the written IPR policy imposed a disclosure duty and considered the members' understanding as something further enforcing that duty.

²⁰⁹ *ibid* 1017.

licensing issues should be settled, given that Motorola had disclosed its SEPs and committed to license them on FRAND terms to willing licensees.

In its judgment, the Court pointed out the following gaps and disclaimers in the IPR policy, which it thought were not helpful in terms of how FRAND licensing issues should be solved:

- i. The IPR policy did not specify how to determine FRAND terms or how courts should adjudicate disputes related to SEPs and FRAND commitment. Instead, the IPR policy left the detailed arrangements arising from patents, which may differ from case to case, to the parties, given that standards are adopted by technical experts who may not be familiar with complex international legal provisions dealing with IPRs;
- ii. The IPR policy also included disclaimers regarding the SSO's role in licensing negotiations and settling SEP-related disputes and, again, left those issues to the concerned parties;
- iii. Finally, the IPR policy stated that the form that entities use to disclose their potential SEPs does not represent an actual grant of a license.²¹⁰

3.1.3.6. HTC Corp. v Telefonaktiebolaget LM Ericsson

This was the first FRAND dispute submitted to a jury, where the non-discrimination concept was discussed in the context of jury instructions.

The case related to Telefonaktiebolaget LM Ericsson's and Ericsson, Inc.'s (Ericsson) SEPs to the 2G, 3G and 4G standards developed by ETSI, encumbered with FRAND commitments.²¹¹ HTC also holds SEPs related to 2G, 3G and 4G technologies and the parties had three cross-licences entered into in 2003, 2008 and 2014. In 2016, the parties started to negotiate to renew the 2014 licence but could reach an agreement.²¹² Both HTC and Ericsson claimed that the other side's offers had not been FRAND and that they had failed to negotiate in good faith.²¹³ HTC also claimed that Ericsson's offers were discriminatory in comparison to the more favourable licensing terms offered to larger

²¹⁰ *Microsoft Corp. v Motorola, Inc.* (n 3) 876-877.

²¹¹ *HTC Corp. v Telefonaktiebolaget LM Ericsson*, 12 F.4th 476 (5th Cir. 2021), 481.

²¹² *ibid* 481-482.

²¹³ *ibid* 482.

mobile device manufacturers such as Apple, Samsung and Huawei.²¹⁴ The jury found that Ericsson had not breached its FRAND commitment, and HTC appealed.²¹⁵

In the context of the jury instructions, the Court first concluded that Ericsson's FRAND commitment was part of an agreement it made with the French-based ETSI, so the question of whether Ericsson had complied with this agreement was a matter of French contract law.²¹⁶ Then, it moved to the purpose of non-discrimination and stated that it aims to level the playing field among competitors by prohibiting differences which create or might create a competitive advantage for a licensee, rather than requiring SEP owners to offer identical licensing terms to all licensees.²¹⁷ The Court clearly stated that strictly preventing SEP owners from offering different licensing terms to licensees would transform non-discrimination into a most-favoured-licensee approach, which ETSI has rejected to give some flexibility to SEP owners within the FRAND boundaries.²¹⁸

3.2. US Agencies' Guidelines, Reports and Official Communications

3.2.1. DOJ & FTC ANTITRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS: PROMOTING INNOVATION AND COMPETITION (REPORT 2007)

The report, prepared jointly by the US agencies, discussed SEP-related antitrust concerns and made some recommendations to mitigate these problems.²¹⁹

They first evaluated existing disclosure and licensing duties.²²⁰ In terms of disclosure, they stated that disclosure provisions might slow down the standardisation process and complying with different SSOs' disclosure provisions can be burdensome for SSO members.²²¹ Then, they highlighted that SSOs' disclosure provisions only bind their members and that vague provisions may not help to prevent patent hold-up.²²²

²¹⁴ *ibid* 482, 488.

²¹⁵ *ibid* 483.

²¹⁶ *ibid* 481, 484.

²¹⁷ *ibid* 485-486.

²¹⁸ *ibid* 486.

²¹⁹ DOJ and FTC, 'Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition' (Report 2007) <<https://www.ftc.gov/sites/default/files/documents/reports/antitrust-enforcement-and-intellectual-property-rights-promoting-innovation-and-competition-report.s.department-justice-and-federal-trade-commission/p040101promotinginnovationandcompetitionrpt0704.pdf>> accessed 3 April 2019, 33-56.

²²⁰ *ibid* 42-48.

²²¹ *ibid* 42-43.

²²² *ibid* 43.

It was stated that disclosure and licensing provisions should complement each other, given that, despite well-drafted and executed disclosure provisions, poor licensing provisions can still cause patent hold-up.²²³ However, they did not suggest SSOs implement a specific disclosure or licensing policy.²²⁴

Further, *ex ante* licensing negotiations between SEP owners and other SSO members were extensively discussed.²²⁵ It was stated that requiring *ex ante* negotiations of potential SEP licences may lead to competition between SEP owners based on the superiority of their technologies and licensing terms (particularly royalty rates).²²⁶ There is an emphasis on the possibility that SSOs can make more informed decisions regarding the inclusion of patents into standards when they know about the terms of potential licences, which would help them to minimise patent hold-up risk whilst producing better quality standards (i.e. standards including technologies that are better given their superiority and royalties).²²⁷ In the report, there is also a reference to the stakeholders' practical concerns of increased costs and delays (e.g. as a result of lawyers' involvement in standardisation) associated with *ex ante* licensing negotiations.²²⁸

The US agencies considered potential anticompetitive concerns that arise in connection with *ex ante* licensing negotiations, and grouped them under two headings: (1) *concerns related to buying power of a specific group (i.e. SSO members)* and (2) *concerns related to sham ex ante negotiations to cover up anticompetitive activities*.²²⁹

As regards the first group of concerns, the following examples were given; (i) unreasonableness of *ex ante* licensing negotiations if there is no alternative technology to the potential SEP, (ii) if the inclusion of the patent into a standard does not enhance the SEP owner's market power and (iii) all potential licensees refuse to get a license 'except on agreed-upon licensing terms'.²³⁰

²²³ *ibid* 45.

²²⁴ *ibid* 48.

²²⁵ *ibid* 49-56.

²²⁶ *ibid* 52.

²²⁷ *ibid* 52-53.

²²⁸ *ibid* 50.

²²⁹ *ibid* 53-55.

²³⁰ *ibid* 53.

In terms of the second group of concerns, they mentioned the possibility that *ex ante* licensing negotiations can be used to cover up naked agreements,²³¹ mainly as a tool for price-fixing.²³² However, it was stated that the US agencies would evaluate *ex ante* licensing negotiations within *the rule of reason* and particularly consider their potential and significant procompetitive benefits (e.g. minimising the risk of patent hold-up).²³³

As an alternative to *ex ante* licensing negotiations, the report mentioned the possibility of requiring potential SEP owners to disclose their most restrictive licensing terms *ex ante* to enable SSO members to anticipate future licensing arrangements, at least to a certain extent.²³⁴ The US agencies made it clear that they will not force SSOs to implement *ex ante* licensing negotiations or introduce a requirement for the disclosure of most restrictive licence terms: instead, they will only provide guidance regarding how they will assess these kinds of initiatives.²³⁵

3.2.2. DOJ AND USPTO POLICY STATEMENT ON REMEDIES FOR STANDARD-ESSENTIAL PATENTS SUBJECT TO VOLUNTARY F/RAND COMMITMENTS (POLICY STATEMENT 2013)

In this joint policy statement, the DOJ and the USPTO expressed their views on whether SEP-based injunctive relief and exclusion orders are being issued appropriately.²³⁶ They highlighted that the US continues to support the voluntary FRAND commitment concept

²³¹ *Black's Law Dictionary* (n 73): 'An informal agreement that is not legally enforceable, because it does not fall within the specific classes of agreements that can support a legal action. ... An agreement that is unenforceable as a contract because it is not "clothed" with consideration.'

²³² DOJ and FTC, 'Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition' (Report 2007) (n 219) 55; *ibid*: Price fixing is '[t]he artificial setting or maintenance of process at a certain level, contrary to the workings of the free market; an agreement between producers and sellers of a product to set process at a high level.'

²³³ DOJ and FTC, 'Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition' (Report 2007) (n 219) 54.

²³⁴ *ibid* 53.

²³⁵ *ibid* 55; FTC, 'The Evolving IP Marketplace: Aligning Patent Notice and Remedies with Competition' (Report 2011) <<https://www.ftc.gov/sites/default/files/documents/reports/evolving-ip-marketplace-aligning-patent-notice-and-remedies-competition-report-federal-trade/110307patentreport.pdf>> accessed 4 September 2019: This report, assessing and making recommendations regarding the legal rules and practices regulating reasonable royalty calculations and available remedies in patent cases, refers to the following SEP-related issues: (i) clarification of patent damages law can help to prevent/minimise the patent holdup risk, (ii) it is pretty expensive and even sometimes impossible to identify all patents that might be asserted against an ICT product given the patent notice problems (e.g. large number of patents, uncertainty regarding patent scopes) and (iii) courts should carefully consider *eBay* factors as well as whether there is a FRAND commitment before issuing an injunction in favour of a SEP owner.

²³⁶ DOJ and USPTO, 'Policy Statement on remedies for Standard-Essential Patents Subject to Voluntary F/RAND Commitments' (Policy Statement 2013) <<https://www.justice.gov/atr/page/file/1118381/download>> accessed 12 August 2019, 1.

to preserve the effectiveness of standardisation and not to undermine the incentive to innovate.²³⁷

They mentioned the relationship between appropriate remedies for the infringement of FRAND encumbered SEPs and public interest factors²³⁸ and referred to the possibility that SEP owners could use exclusion orders as leverage against potential licensees in order to exploit more advantageous licensing terms.²³⁹ They stated that, depending on the facts of each case, it may not be appropriate to issue an exclusion order if the potential licensee acts according to the SEP owner's FRAND commitment (i.e. is willing to get a licence on FRAND terms).²⁴⁰

They encouraged the ITC to consider whether a SEP owner agrees that pecuniary damages are the appropriate remedy for infringement of the FRAND-encumbered SEP.²⁴¹ They also advised the ITC to consider the public interest factors and not issue an exclusion order if it finds that the order will not be in compliance with these factors.²⁴² However, they clarified that exclusion orders might be an appropriate remedy in particular circumstances: for example, if the potential licensee refuses to get a licence on FRAND terms.²⁴³ They asserted that this approach would help to clarify the meaning of FRAND and incentivise participation to standardisation activities.²⁴⁴

²³⁷ *ibid* 5-6.

²³⁸ Pursuant to 19 U.S.C. Section 1337(d)(1) the ITC should consider the effect of the exclusion of the goods subject to the investigation upon the public health and welfare, competitive conditions, the production of competitive goods and consumers in the US.

²³⁹ DOJ and USPTO, 'Policy Statement on remedies for Standard-Essential Patents Subject to Voluntary F/RAND Commitments' (Policy Statement 2013) (n 236) 6.

²⁴⁰ *ibid* 9.

²⁴¹ *ibid*.

²⁴² *ibid* 10: They also mentioned the possibility that the ITC can delay the date that the exclusion order will be in effect to allow parties to agree on a FRAND license.

²⁴³ *ibid* 7.

²⁴⁴ *ibid* 8; Executive Office of the President the US Trade Representative, 'Disapproval of the US International Trade Commission's Determination in the Matter of Certain Electronic Devices, Including Wireless Communication Devices, Portable Music and Data Processing Devices, and Tablet Computers, Investigation No. 337-TA-794' (Disapproval Letter 2013) <https://ustr.gov/sites/default/files/08032013%20Letter_1.PDF> accessed 12 August 2019: On June 4, 2013, the ITC determined that Apple had violated Section 337 of the Tariff Act of 1930 in the importation of the devices infringing the US patent (No. 7,706,748), which is a SEP owned by Samsung. Following the determination, the ITC issued an exclusion order against the infringing Apple goods and a cease and desist order preventing certain activities of Apple, such as the sale of the infringing goods in the US. With the Disapproval Letter 2013, the trade representative, Michael B. G. Froman, acting by a delegation of authority from the President, notified the ITC of the President's decision to disapprove the ITC's determination to issue an exclusion and cease and desist order as it is not consistent with the public interest. There were direct references to the Policy Statement 2013 in this letter; DOJ, 'Statement of the Department of Justice Antitrust Division on Its Decision to Close Its Investigation of Samsung's Use of Its Standards-Essential Patents' (Press Release 2014) <<https://www.justice.gov/opa/pr/statement-department-justice-antitrust-division-its-decision-close-its-investigation-samsung>> accessed 6 September 2019: Following the Disapproval Letter of the

In 2019, the Policy Statement 2013 had been withdrawn by the DOJ and the USPTO on the ground that it had been misinterpreted to suggest that a unique set of rules applies to SEP disputes and, together with the National Institute of Standards and Technology (NIST), they issued another statement (Policy Statement 2019) to clarify that although FRAND commitments and IPR policies are factors to be considered in deciding on an appropriate remedy, they should not bar any remedy automatically.²⁴⁵ In a nutshell, they: (1) encouraged parties to engage in good-faith SEP licensing negotiations, and (2) encouraged that all remedies including injunctive relief should be available for FRAND-encumbered SEPs if licensing negotiations fail.²⁴⁶

3.2.3. DOJ, USPTO AND NIST DRAFT POLICY STATEMENT ON LICENSING NEGOTIATIONS AND REMEDIES FOR STANDARD-ESSENTIAL PATENTS SUBJECT TO VOLUNTARY F/RAND COMMITMENTS (DRAFT POLICY STATEMENT 2021)

Following the Policy Statement 2013, which was issued during the Obama administration, and then the Policy Statement 2019 withdrawing the previous statement in the Trump administration, a new iteration of the statement was issued in 2021. The Draft Policy Statement 2021 is in response to President Joe Biden's Executive Order on Promoting Competition in the American Economy Section 5(d), which asked the DOJ, USPTO and NIST to consider whether the Policy Statement 2019 should be revised.²⁴⁷ Besides the remedies for SEPs, the statement provides guidance on good-faith SEP licensing negotiations.²⁴⁸

It states that by giving a FRAND commitment, the SEP owner indicates that it is willing to license its SEP and will not engage in patent hold-up.²⁴⁹ According to the Draft Policy Statement 2021, where there is a willing licensee which can also compensate the SEP

trade representative, the DOJ announced that it closed the investigation focussing on Samsung's attempts to use its FRAND-encumbered SEPs to exclude Apple products from the market.

²⁴⁵ DOJ, USPTO and NIST, 'Policy Statement on Remedies for Standard-Essential Patents Subject to Voluntary F/RAND Commitments' (Policy Statement 2019) <<https://www.justice.gov/atr/page/file/1228016/download>> accessed 16 March 2022, 4, 7.

²⁴⁶ *ibid* 4-5.

²⁴⁷ Executive Order on Promoting Competition in the American Economy (9 July 2021) <<https://www.whitehouse.gov/briefing-room/presidential-actions/2021/07/09/executive-order-on-promoting-competition-in-the-american-economy/>> accessed 19 March 2022.

²⁴⁸ DOJ, USPTO and NIST, 'Draft Policy Statement on Licensing Negotiations and Remedies for Standard-Essential Patents Subject to Voluntary F/RAND Commitments' <<https://www.justice.gov/atr/page/file/1453471/download>> accessed 16 March 2022, 1.

²⁴⁹ *ibid* 4.

owner for use (including past use) of its SEP, seeking injunctive relief is inconsistent with the idea of the FRAND commitment.²⁵⁰

They then go on to provide guidance on the steps of good-faith negotiation, which are pretty similar to the guidelines the CJEU had provided in *Huawei v ZTE*,²⁵¹ discussed in the next chapter. Namely, they encourage SEP owners to alert a potential licensee of the specific SEPs and make a good-faith FRAND offer, and then the parties should respond to each other within a reasonable time to advance the negotiation with the aim of agreeing on FRAND terms.²⁵²

The parties are encouraged to resolve the issue amicably, preferably using an ADR mechanism, should licensing negotiations break down.²⁵³ If an amicable resolution is not possible, the existence of a FRAND commitment and the individual circumstances of licensing negotiations will affect the appropriate remedy for the SEP infringement.²⁵⁴ Overall, the Draft Policy Statement 2021 favours monetary remedies over injunctions for the compensation of SEP owners in reference to the *eBay* factors and points out that, since *eBay*, SEP-based injunctions have been rarely granted.²⁵⁵ For completeness, according to the four-factor test of *eBay*, the plaintiff seeking a permanent injunction must demonstrate that: (1) it has suffered irreparable injury; (2) that remedies available at law (e.g. monetary damages) are inadequate to compensate the injury; (3) a remedy in equity is warranted considering the balance of hardship between the plaintiff and the defendant; and (4) that public interest would not be disserved by a permanent injunction.²⁵⁶

3.2.4. DOJ BUSINESS REVIEW LETTERS

Based on the information presented, the DOJ provides a statement of its current enforcement intentions as to a specific conduct through business review letters upon the request of persons involved in that conduct, pursuant to 28 Code of Federal Regulations Section 50.6.²⁵⁷ The main purpose of business review letters is to provide

²⁵⁰ *ibid.*

²⁵¹ Case C-170/13 *Huawei v ZTE* [2015] ECLI:EU:C:2015:477 All ER (D) 237 (Jul).

²⁵² DOJ, USPTO and NIST, 'Draft Policy Statement on Licensing Negotiations and Remedies for Standard-Essential Patents Subject to Voluntary F/RAND Commitments' (248) 5-6.

²⁵³ *ibid* 6.

²⁵⁴ *ibid* 7.

²⁵⁵ *ibid* 8-9.

²⁵⁶ *eBay Inc. v. MercExchange, L.L.C.*, 126 S.Ct. 1837 (2006).

²⁵⁷ 'What is a Business Review?' (n 69).

guidance as to the scope, interpretation and application of antitrust rules to a particular conduct.²⁵⁸ Business review letters represent the DOJ's enforcement intention at the time when the request was made and do not prevent the DOJ from bringing an enforcement action after issuing the letter, if the conduct proves to be anticompetitive in practice.²⁵⁹

3.2.4.1. VITA Business Review Letter

This was the first business review letter where the DOJ made a statement regarding an IPR policy. VITA considered that the FRAND commitment was not sufficient to prevent patent hold-up and decided to revise its IPR policy in order to enable its members to make more informed decisions regarding the inclusion of potential SEPs into standards.²⁶⁰

This revised IPR policy mainly aimed to improve the identification and declaration of potential SEPs in a timely manner, the declaration of maximum royalty rates and most restrictive non-royalty terms, and resolving disputes arising from these, through the VITA's internal arbitration procedure.²⁶¹

In terms of the identification of potential SEPs, the IPR policy imposed *a good faith and reasonable inquiry* duty on the SSO members attending working groups developing standards technically.²⁶² The members were obliged to search for potential SEPs, including unpublished patents, that they or their affiliates own, control or license.²⁶³ The policy also required members to disclose potential SEPs of third parties as well, provided that this does not breach their confidentiality obligations.²⁶⁴

The IPR policy regulated the timing of the disclosure as follows: (i) the member proposing to set a new standard must disclose any potential SEPs before the formation of the working group; (ii) all members of the working group must disclose any potential SEPs within sixty days as of the formation of the group; and (iii) all members of the working

²⁵⁸ *ibid* (n 69).

²⁵⁹ DOJ, 'VITA Business Review Letter' (2006) <<https://www.justice.gov/atr/response-vmibus-international-trade-association-vitas-request-business-review-letter>> accessed 25 May 2019, 10.

²⁶⁰ *ibid* 3-4.

²⁶¹ *ibid* 4-5.

²⁶² *ibid* 5.

²⁶³ *ibid*.

²⁶⁴ *ibid*.

group must disclose any potential SEPs within fifteen days as of the publication of the draft specification.²⁶⁵

The IPR policy stipulated the declaration of maximum royalty rates and most restrictive non-royalty terms as irrevocable.²⁶⁶ If a member declares a potential SEP and its maximum royalty rate but fails to disclose most restrictive non-royalty terms, it must accept the limits on any grantback, reciprocal license, non-assertation, covenant not to sue or defensive suspension provisions in a licensing agreement.²⁶⁷ If a member fails to disclose a potential SEP or the associated maximum royalty rate, then that member commits to give a royalty-free licence for the SEP and the abovementioned limits on non-royalty terms would also be applicable.²⁶⁸

The DOJ assessed the revised IPR policy under the rule of reason and declared that it did not intend to take antitrust enforcement action against the application of the proposed provisions.²⁶⁹ It acknowledged that disclosing most restrictive licensing terms in advance can help to preserve the competition between alternative technologies during standardisation and help members to make informed decisions.²⁷⁰ The DOJ emphasised the fact that the members will not set actual licensing terms as the policy prohibits any joint negotiation of licensing terms among working group members and third parties.²⁷¹ Finally, it clarified that the use of the revised policy to cloak price-fixing or any anticompetitive behaviours by SEP holders would not be acceptable.²⁷²

3.2.4.2. IEEE Business Review Letter (2007)

IEEE decided to revise its IPR policy as it thought the vagueness of the FRAND commitment gives rise to disputes, delaying the implementation of standards, and to enable its

²⁶⁵ *ibid* 6; *ibid* 2: In the VITA, standard setting generally starts with the proposal of one of the members and then, if at least two other members are interested, they can form a working group to draft the potential standard's specification.

²⁶⁶ *ibid* 4-5: Nevertheless, the patent holder can change its declaration regarding maximum royalty rate with a lower rate and other licensing terms with less restrictive ones.

²⁶⁷ *ibid* 6: The most restrictive non-royalty terms that a licensor can request are (i) requiring a licensee to grant a FRAND licence for the licensee's current and future patents that are essential to the same standard, (ii) requiring a licensee to grant a reciprocal licence to such patent claims, (iii) requiring a licensee not to enforce these patent claims against the licensor and (iv) being able to suspend the licence if the licensee takes an infringement action against the licensor for these patent claims.

²⁶⁸ *ibid* 6-7.

²⁶⁹ *ibid* 9-10.

²⁷⁰ *ibid* 9.

²⁷¹ *ibid*.

²⁷² *ibid* 9-10.

members to make informed decisions about the inclusion of patents into standards by increasing the *ex ante* transparency of SEP licensing terms.²⁷³

In general, the proposed licensing terms allowed potential SEP owners to disclose and commit to most restrictive licensing terms before their patents are included into a standard and again allowed members to discuss the costs and benefits of alternative technologies in technical meetings to a certain extent.²⁷⁴

According to the revised policy, a potential SEP owner could respond to the licensing commitment request for its potential SEP in one of the following ways;

- i. Not providing any licensing information;
- ii. Submitting a LOA stating that the potential SEP owner is not aware that it owns, controls or otherwise has the ability to grant a licence for the patent after a reasonable and good-faith inquiry;²⁷⁵
- iii. Submitting a LOA stating that the potential SEP owner will not assert any patent claims against any potential licensee;
- iv. Submitting a LOA stating that there is a potential SEP, and its owner is willing to give a FRAND licence (including a royalty-free license);
- v. Submitting a LOA stating that there is a potential SEP, and its owner is willing to give a FRAND licence and specifying some or all of the licensing terms.²⁷⁶

LOAs had to be submitted before the standard was approved finally, and ideally as soon as it was reasonably feasible to do so.²⁷⁷ Once an LOA is accepted by IEEE, it was irrevocable and published on the IEEE website.²⁷⁸ As long as the technology subject to the standard remained the same and the patent remained essential, the LOA continued to apply to the standard even if amended, edited or revised.²⁷⁹

²⁷³ DOJ, 'IEEE Business Review Letter' (2007) <<https://www.justice.gov/sites/default/files/atr/legacy/2007/04/30/222978.pdf>> accessed 26 May 2019, 4.

²⁷⁴ *ibid* 4-5.

²⁷⁵ *ibid* 6: The reasonable and good faith inquiry does not require the potential SEP owner to search its patent portfolio.

²⁷⁶ *ibid* 6: *ibid* 7: The patent owner can give a blanket LOA for all the potential SEPs for the proposed standards or provide different LOAs for each SEP. Alternatively, for a SEP, multiple LOA can be submitted, and the potential licensee can invoke one of them during licensing negotiations.

²⁷⁷ *ibid* 7.

²⁷⁸ *ibid*.

²⁷⁹ *ibid* 8.

The specific licensing terms would not be discussed in working groups where the members discuss standards technically.²⁸⁰ However, they could compare alternative technologies including in terms of their costs and, in this context, licensing costs of potential SEPs could be considered.²⁸¹

The DOJ again referred to the rule of reason in its assessment and assured that it would not take antitrust enforcement action against the application of the proposed provisions.²⁸² In terms of the procompetitive effects of the provisions, it stated that they might help the members to make informed decision about potential SEPs and could lead to faster development, implementation, and adoption of standards while decreasing the number of SEP disputes.²⁸³ The DOJ explicitly stated that the revised IPR policy allowed discussions on costs of the proposed standards to a certain extent and that this may lead to joint negotiations of licensing terms but it did not comment on its compliance with antitrust law as IEEE did not query this.²⁸⁴ The DOJ again highlighted that using these revised provisions to cloak price-fixing or enabling any anticompetitive behaviour by patentholders would not be tolerated.²⁸⁵ Finally, and also considering the VITA's revised IPR policy, the DOJ clarified that not every SSO should implement the same provisions as VITA or IEEE: instead, they need to find the method tailored to their needs and enhance collaboration among their members.²⁸⁶

3.2.4.3. IEEE Business Review Letter (2015)

IEEE updated its revised IPR policy discussed above and asked for the DOJ's enforcement intention regarding this update in 2015.²⁸⁷ IEEE aimed to clarify: (i) the availability of

²⁸⁰ *ibid.*

²⁸¹ *ibid.*

²⁸² *ibid* 12.

²⁸³ *ibid* 11.

²⁸⁴ *ibid.*

²⁸⁵ *ibid.*

²⁸⁶ *ibid* 12; Lauren E Barrows, 'Why the Enforcement Agencies' Recent Efforts will not Encourage Ex Ante Licensing Negotiations in Standard-Setting Organisations' (2011) 89 Tex. L. Rev. 967; Considering the Report 2007, the VITA Business Review Letter and the IEEE Business Review Letter (2007), Barrows stated that the US agencies did not provide clear guidance regarding potential antitrust liability due to ex ante licensing negotiations in the standard setting process. They argued that the agencies should provide clear legal guidance considering (i) the financial burden of defending antitrust claims, (ii) that engineers who do not have sufficient legal knowledge participate in standardisation, (iii) that their reports, letters and statements are the primary source of guidance, (iv) that the administration, which prepared the Report 2007 and issued the VITA Business Review Letter and the IEEE Business Review Letter (2007), has been changed and (v) that the existing safe harbours do not provide adequate protection.

²⁸⁷ DOJ, 'IEEE Business Review Letter' (2015) <<https://www.justice.gov/file/1315431/download>> accessed 26 May 2019, 2: IEEE concluded that the revised IPR policy was insufficient to deal with the uncertainty of reasonable rates and could not create a consensus regarding the interpretation of the same between

prohibitive orders (i.e. injunctions and exclusion orders)²⁸⁸ to SEP owners where there is a FRAND commitment; (ii) the meaning of *reasonable rate*; (iii) permissible licensing demands; and (iv) the production levels to which FRAND commitments apply.²⁸⁹

The update limited the availability of prohibitive orders for SEP owners. Essentially, the SEP owner that gave a FRAND commitment could not seek a prohibitive order unless the (potential) licensee failed to participate in court proceedings or comply with a court judgment resolving a dispute related to the SEP.²⁹⁰ The DOJ considered this provision to be in line with the caselaw and concluded that this clarification might help parties to agree on SEP licensing terms more quickly.²⁹¹

The update defined *reasonable rate* as ‘appropriate compensation to the patent holder for the practice of an Essential Patent Claim [SEP] excluding the value, if any, resulting from the inclusion of the Essential Patent Claim’s technology in the IEEE Standard.’²⁹² The update also advised potential licensors and licensees to consider additional factors in determining the reasonable rate (e.g. existing comparable licences for the SEP).²⁹³ Besides finding this provision in line with the caselaw, the DOJ stated that the provision could help to minimise patent hold-up risk and increase competition between alternative technologies.²⁹⁴

The update made it clear that if a SEP owner gave a FRAND commitment, a potential licensee could not refuse to license its own SEP to this SEP owner (i.e. if A is benefitting from B’s FRAND commitment the implementation of a standard, x, A cannot refuse to license its own patent which is essential to the same standard to B).²⁹⁵ The update explicitly stated that the SEP owner cannot force a potential licensee (also the owner of

patent owners and potential licensees. As a result, only two SEP owners disclosed their most restrictive licensing terms since 2007.

²⁸⁸ ‘IEEE Request Letter’ (2014) <<https://www.justice.gov/sites/default/files/atr/legacy/2015/02/17/311483.pdf>> accessed 27 May 2019, 16.

²⁸⁹ DOJ, ‘IEEE Business Review Letter’ (2015) (n 287) 1.

²⁹⁰ *ibid* 4.

²⁹¹ *ibid*.

²⁹² ‘IEEE Request Letter’ (2014) (n 288) 15.

²⁹³ *ibid* 16.

²⁹⁴ DOJ, ‘IEEE Business Review Letter’ (2015) (n 287) 6; Koren W. Wong-Ervin, Joshua D. Wright, ‘Intellectual Property and Standard Setting’ (2016) 17 *Federalist Soc’y Rev.* 52: They criticised the DOJ’s favourable letter, particularly by stating that the smallest saleable patent practising unit approach is inconsistent with US case law.

²⁹⁵ ‘IEEE Request Letter’ (2014) (n 288) 17.

another SEP) to enter into a cross-licensing agreement²⁹⁶ and parties are free to negotiate on the licence types.²⁹⁷ The DOJ approved IEEE's approach of not imposing licence type to prevent coercive cross-licences which might be anticompetitive.²⁹⁸

Finally, the update clarified that the SEP owner cannot refuse to license its SEP just because of the level of production of the relevant product (e.g. component, end product) while allowing adjustments in royalty rates.²⁹⁹ The DOJ found this provision clarifying the non-discrimination limb of FRAND procompetitive.³⁰⁰

Overall, the DOJ found the update procompetitive on the grounds that it might mitigate patent hold-up, royalty stacking and foster competition among alternative technologies (i.e. potential SEPs).³⁰¹

In 2020, the DOJ updated this business review letter to align the outdated 2015 analysis with current law and policy in relation to SEP licensing and the governance of SSOs.³⁰²

²⁹⁶ Cross licensing is an agreement between two or more parties having different IPRs to license their IPRs.

²⁹⁷ 'IEEE Request Letter' (2014) (n 288) 17.

²⁹⁸ DOJ, 'IEEE Business Review Letter' (2015) (n 287) 6.

²⁹⁹ *ibid.*

³⁰⁰ *ibid.*

³⁰¹ *ibid.*; J Gregory Sidak, 'The Antitrust Division's Devaluation of Standard-Essential Patents' (2015) 104 *Geo. L.J. Online* 48: Sidak criticised the DOJ's approach, particularly considering that it did not establish whether patent hold-up and royalty stacking are real problems in IEEE's standardisation activities, and it ignored that the update could facilitate buyer collusion; Alden F. Abbott, 'US Government Antitrust Intervention in Standard-Setting Activities and the Competitive Process' (2016) 18 *Vand. J. Ent. & Tech. L.* 225: Abbot also criticised the DOJ favourable letter in general on the ground that the update intervenes bilateral negotiations in an undesired way as well as the market process; For a comment on the VITA Business Review Letter, the IEEE Business Review Letter (2007) and the IEEE Business Review Letter (2015) see Lisa Kimmel, 'Standards, Patent Policies, and Antitrust: A Critique of IEEE-II' (2015) 29-SUM *Antitrust* 18; Ashish Bharadwaj et al, 'All Good Things Mustn't Come to an End: Reigniting the Debate on Patent Policy and Standard Setting' in Ashish Bharadwaj et al (eds), *Multi-dimensional Approaches Towards New Technology* (Springer 2018): They primarily by referring to the work of Gupta and Effraimidis (i.e. 'IEEE Patent Policy Revisions: An Empirical Examination of Impact') analysing the effect of the update of IEEE's IPR policy (2015) on IEEE's standardisation activities empirically (e.g. number of LOAs submitted before and after 2015 and their nature), stated that since then, SEP owners are unwilling to invest in R&D and license their SEPs under IEEE's IPR policy; Richard Lloyd, 'The IEEE's New Patent Policy One Year on - the Battle that's Part of a Bigger Licensing War' (2016) <<https://www.iam-media.com/article/the-ieeees-new-patent-policy-one-year-the-battle-thats-part-of-bigger-licensing-war>> accessed 7 September 2019: Qualcomm, Ericsson and Nokia with some other IEEE members refused to license their SEPs under IEEE's new provisions and even some of them challenge IEEE's ANSI accreditation; Panagiotis Delimatsis et al, 'Strategic Behaviour in Standards Development Organizations in Times of Crisis' (2021) 29 *Tex. Intell. Prop. L.J.* 127, 171: ANSI decided that the revised IEEE IPR policy conforms to the ANSI patent policy by affirming that its essential requirements only apply to standard development processes and do not apply to the development of SSOs' procedures like IPR policies; For a discussion whether standardisation agreements based on the IEEE IPR policy revised in 2007 and 2015 violate TFEU Article 101 see Nicolo Zingales and Olia Kanevskaia, 'IEEE-SA patent policy update under the lens of EU competition law' (2016) 12 *Nos. 2-3 Eur. Compet. J.* 195.

³⁰² DOJ, 'IEEE Supplemental Business Review Letter' (2020) (n 39).

Ultimately, the previous business review letter's view was found to favour potential licensees and provide safeguards against patent hold-up without considering the patent hold-out possibility.³⁰³ Regarding SEP-based injunctions, the DOJ reiterated the importance of injunctive relief for patent owners to obtain appropriate value for their technology and the adverse effects of denying SEP owners access to this enforcement mechanism.³⁰⁴ Concerning the calculation of reasonable royalty rates, it was stated that there is no single correct way to do this calculation and negotiating parties' choices should not be unreasonably restricted.³⁰⁵ In light of its updated views, the DOJ invited IEEE to consider whether any changes to its IPR policy were needed.³⁰⁶

3.2.4.4. MPEG LA, RFID Consortium LLC and Avanci Business Review Letters (regarding SEP Pools)

Although analysing SEP pools in detail is not one of the purposes of this thesis, some of the points discussed in the DOJ business letters addressing SEP pools provide useful guidance as to under what conditions SEP pools are compliant with antitrust law, which could be used to improve the SEP licensing framework, and some of these points might also inform the revision of IPR policies.³⁰⁷

The DOJ was of the opinion that SEP pools produce competitive efficiencies by integrating complementary technologies, reducing transaction costs, royalty stacking and avoiding costly infringement litigation.³⁰⁸ Regarding transaction costs, the DOJ referred to lowering the costs of identifying SEPs, SEP infringers, and the provision of a platform which is a single stop for licensing negotiations.³⁰⁹ Although SEP pools are assessed under the rule of reason unless they are used to cloak collusion, the DOJ does not implement a broad-brush approach: instead, it considers the anti- and procompetitive effects of each arrangement before disclosing its enforcement intention.³¹⁰

³⁰³ *ibid* 8.

³⁰⁴ *ibid* 6.

³⁰⁵ *ibid* 8.

³⁰⁶ *ibid* 11.

³⁰⁷ For the list of potential pro- and anticompetitive effects of patent pools in general see DOJ and FTC, 'Antitrust Guidelines for Licensing of Intellectual Property' (2017) (n 60) 30-31.

³⁰⁸ DOJ, 'RFID Consortium LLC Business Review Letter' (2008) <<https://www.justice.gov/sites/default/files/atr/legacy/2008/10/21/238429.pdf>> accessed 10 June 2019, 7; DOJ, 'MPEG LA, LLC Business Review Letter' (1997) <<https://www.justice.gov/sites/default/files/atr/legacy/2006/10/17/215742.pdf>> accessed 10 June 2019, 9; DOJ, 'Avanci Business Review Letter' (2020) <<https://www.justice.gov/atr/page/file/1298626/download>> accessed 18 March 2022, 8.

³⁰⁹ DOJ, 'RFID Consortium LLC Business Review Letter' (2008) (n 308) 7-8.

³¹⁰ *ibid* 6-11; DOJ, 'Avanci Business Review Letter' (2020) (n 308) 9.

Some of the issues the DOJ considered in its assessments are as follows:

- i. Whether the pool only includes valid and technically essential patents complementing each other;³¹¹
- ii. Whether SEP owners are free to license their SEPs bilaterally outside the pool and whether there are any safeguards preventing the collection of royalties from the same licensee twice;³¹²
- iii. Whether there are confidentiality requirements preventing the transmission of competitively sensitive information between licensors and licensees to avoid the risk of collusion;³¹³
- iv. Whether the pool allows other parties to challenge the validity, enforceability and essentiality of patents.³¹⁴

The subject matter of the Avanci business letter was a pool to license SEPs related to 5G cellular standards for use in automotive vehicles, so the licensing program's field of use was limited to vehicles with 5G functionality.³¹⁵ In line with the field-of-use restriction, Avanci would license the SEPs to OEMs, rather than component manufacturers.³¹⁶ Although the DOJ concluded that licensing to OEMs was unlikely to harm competition, it clarified that they did not make any assessments as to whether this was the correct approach or was in compliance with the SEP owners' FRAND commitments.³¹⁷ As discussed above, the fact that Avanci only licensed the SEPs to OEMs led to a dispute between an automotive component provider, Continental and Avanci.³¹⁸

3.2.5. STATEMENTS OF THE FORMER DEPUTY ASSISTANT ATTORNEY GENERAL RENATA B. HESSE

Reflecting the most prominent issue of Hesse's tenure, their statements mostly focused on alleviating patent hold-up and encouraging SSOs to amend their IPR policies for that

³¹¹ DOJ, 'MPEG LA, LLC Business Review Letter' (1997) (n 308) 9-10; Herbert Hovenkamp, 'Antitrust and the Patent System: A Reexamination' (2015) 76 Ohio St. L.J. 467; Hovenkamp argued that the idea of pooling complementary patents is efficient, while pooling of substitute patents can give rise to anticompetitive concerns is not always valid, particularly in the ICT sector; DOJ, 'Avanci Business Review Letter' (2020) (n 308) 12-15.

³¹² DOJ, 'MPEG LA, LLC Business Review Letter' (1997) (n 308) 10-11; DOJ, 'Avanci Business Review Letter' (2020) (n 308) 5, 8, 12, 16.

³¹³ DOJ, 'MPEG LA, LLC Business Review Letter' (1997) (n 308) 10-11; DOJ, 'RFID Consortium LLC Business Review Letter' (2008) (n 308) 9-10; DOJ, 'Avanci Business Review Letter' (2020) (n 308) 12, 21-22.

³¹⁴ DOJ, 'RFID Consortium LLC Business Review Letter' (2008) (n 308) 4; DOJ, 'Avanci Business Review Letter' (2020) (n 308) 7-8.

³¹⁵ DOJ, 'Avanci Business Review Letter' (2020) (n 308) 1.

³¹⁶ *ibid* 18.

³¹⁷ *ibid* 21.

³¹⁸ *Continental Automotive Systems, Inc. v Avanci*, 27 F.4th 326 (5th Cir. 2022).

purpose.³¹⁹ In particular, they advised SSOs to: (1) introduce mechanisms to identify potential SEPs in advance and lower transaction costs of determining FRAND terms (e.g. setting guidelines, introducing internal arbitration); (2) clarify that FRAND commitments will pass on to subsequent owners of encumbered SEPs; and (3) limit SEP owners' right to seek injunctions against a willing licensee.³²⁰ In addressing courts and the ITC, they reiterated that SEP-based injunctions/exclusion orders should only be granted on rare occasions.³²¹

Hesse made it clear that there is no one-size-fits-all IPR policy for SSOs and they need to have the freedom to adopt their own internal provisions.³²² They warned that the DOJ can enforce antitrust rules against SSOs if their activities harm competition and advised them to consider revising their IPR policies to avoid antitrust liability.³²³ Whilst discussing

³¹⁹ Renata B Hesse, 'Six "Small" Proposals for SSOs Before Lunch' (Remarks 2012) <<https://www.justice.gov/atr/file/518951/download>> accessed 4 April 2019, 5-6, 18; Renata B Hesse, 'The Art of Persuasion: Competition Advocacy at the Intersection of Antitrust and Intellectual Property' (Speech 2013) <<https://www.justice.gov/atr/file/518356/download>> accessed 4 April 2019, 5.

³²⁰ Hesse, 'Six "Small" Proposals for SSOs Before Lunch' (Remarks 2012) (n 319) 9-10: Hesse defined an *unwilling licensee* as an entity that does not consent to have an independent third party determine FRAND rates or accept the terms that were already determined by an independent third party; Hesse, 'The Art of Persuasion: Competition Advocacy at the Intersection of Antitrust and Intellectual Property' (Speech 2013) (n 319) 6; Janusz Ordoover and Allan Shampine, 'Implementing the FRAND Commitment' (2014) 14-OCT Antitrust Source 1: They compared the effect of granting an injunction on a SEP owner and potential licensee and argued that granting injunctive relief would affect the business of a potential licensee more than it would affect the SEP owner where it is refused (i.e. potential compensable monetary damages). They argued that, in principle, courts should not grant injunctions to SEP owners that agreed to accept royalties from any potential licensees for their SEPs.

³²¹ Hesse, 'The Art of Persuasion: Competition Advocacy at the Intersection of Antitrust and Intellectual Property' (Speech 2013) (n 319) 6; Matthew Norris, 'Blocking Blocks at the Border: Examining Standard-Essential Patent Litigation Between Domestic Companies at the ITC' 98 Minn. L. Rev. 713: Norris discussed the issue of why the ITC, established to protect the domestic industry, is not an appropriate forum for SEPs disputes between US entities.

³²² Hesse, 'Six "Small" Proposals for SSOs Before Lunch' (Remarks 2012) (n 319) 10.

³²³ *ibid* 10-11; Michael A Lindsay and Robert A Skitol, 'New Dimensions to the Patent Holdup Saga' (2013) 27-SPG Antitrust 34, 37-41: They evaluated the Hesse's proposals and made the following comments - (i) SSOs may set up a mechanism for potential SEP owners (including non-members) to identify their potential SEPs and in case of non-disclosure, this can be considered by courts while evaluating granting an injunction regardless of the existence of a FRAND commitment, (ii) SSOs' provisions regarding licensing commitments should protect all the interested parties (including non-member implementers) against patent hold-up, (iii) in terms of giving implementers the option of licensing SEPs on a cash-only basis and prohibiting the mandatory cross license, parties may not agree on the essentiality of patents so SSOs should implement mechanisms for determining essentiality, (iv) FRAND commitment can be clarified further that it precludes the right to seek injunctive relief, from a district court, or exclusion or cease-and-desist order, from the ITC, against any implementer unless there is an exceptional circumstance (e.g. an implementer refuses to have a neutral third party to determine FRAND terms), (v) in terms of lowering transaction costs of determining FRAND licence terms, it should be bore in mind that, in principle, SSOs rely on technical expertise of their members' representatives and they do not have expertise in market rates for SEP licences so they may not be able to provide substantive guidance on FRAND terms (including royalty rates), (vi) SSOs can introduce a post-standard-adoption recertification or have an independent expert to assess the essentiality or create any other process for making such an assessment to ensure the essentiality of (potential) SEPs; Jones Hein, 'The Recent DOJ and FTC Policy Suggestions for Standard Setting Organisations --The Way Out of Standard-Essential Patent Hold-up?' 2 NYU J. Intell. Prop. & Ent. L. 339: In terms of the suggestions regarding disclosure, cash-only licences and injunctions, Hein made the following comments - (i) stricter disclosure duty may increase the transaction costs of SEP owners trying to be compliant with this duty and cause over declaration of SEPs. Requiring SEP owners to disclose their most restrictive licensing terms can be an appropriate solution as that will also help to minimise the risk of over-

whether exercising the monopoly power conferred to SEP owners by the inclusion of their patents into standards and breach of the FRAND commitments violate Section 2, Hesse drew a distinction between the responsibilities of the US antitrust agencies and SSOs (including their members).³²⁴ They stated that although the US agencies try to stop SEP owners' anticompetitive behaviours, SSOs and private parties need to complement these efforts by legally challenging this conduct.³²⁵

3.2.6. STATEMENTS OF THE FORMER ASSISTANT ATTORNEY GENERAL OF MAKAN DELRAHIM

Delrahim thought competition policy had focused on patent hold-up and mostly ignored the source of innovation and efficiency.³²⁶ Through emphasising the contractual nature of FRAND commitments, they encouraged SSOs and their members, as a party to/beneficiaries of these contracts, to rely on contractual remedies, rather than relying on antitrust law.³²⁷ They also asserted that the enforcement of patent rights (including seeking SEP-based injunctions) does not violate antitrust law.³²⁸

Delrahim urged SSOs to assess their internal provisions, particularly those causing/having potential to cause cartel-like behaviours, to ensure that they are not anticompetitive.³²⁹ They particularly highlighted that the DOJ will scrutinise the SSOs' provisions favouring SEP owners or potential licensees (i.e. not striking the right balance) and the processes of setting these provisions more closely.³³⁰ They also advised SSOs to refrain from imposing any duties on SEP owners which would turn FRAND commitments into *compulsory licensing schemes* and stated that any provisions leading to this may be considered anticompetitive.³³¹

declaration, (ii) cash-only licences may not prevent the hold-up and result in vertical restraints, (iii) while restricting SEP owners' right to seek injunctive relief may mitigate patent hold-up, the potential risk of patent hold-out should also be considered.

³²⁴ Renata B Hesse, 'IP, Antitrust and Looking Back on the Last Four Years' (Speech 2013) (n 14) 19.

³²⁵ *ibid.*

³²⁶ Makan Delrahim, 'Assistant Attorney General Makan Delrahim Delivers Remarks at the USC Gould School of Law's Center for Transnational Law and Business Conference' (Speech 2017) <<https://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-remarks-usc-gould-school-laws-center>> accessed 2 September 2019, 3.

³²⁷ *ibid.*; Shapiro and Lemley, 'The Role of Antitrust in Preventing Patent Holdup' (n 156): The DOJ's attempts to undermine IPR policies, including FRAND commitments, contradict Delrahim's statement that reliance on antitrust law must be minimal where there is a FRAND commitment.

³²⁸ Delrahim, 'Assistant Attorney General Makan Delrahim Delivers Remarks at the USC Gould School of Law's Center for Transnational Law and Business Conference' (Speech 2017) (n 326) 3.

³²⁹ *ibid.* 5.

³³⁰ *ibid.* 4.

³³¹ *ibid.* 5; Makan Delrahim, 'Antitrust Law and Patent Licensing in the New Wild West' (Speech 2018) <<https://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-remarks-iam-s-patent-licensing>> accessed 3 September 2019: Delrahim elaborated further on the issue of why it is not appropriate to apply Section 2 to the violation of FRAND commitment cases and stated that the FRAND concept is not clear enough to allow courts to distinguish between lawful and unlawful conduct.

As regards the DOJ's approach to the adoption and implementation of IPR policies by SSOs, given their effect on incentives to innovate, Delrahim stated that SSOs' members can benefit from the enhanced competition, among SSOs, to adopt better IPR policies.³³² In reference to the ANSI's initiative of recommending that SEP owners declare whether they will license their SEPs and, if so, what will be the licensing terms, Delrahim stated that the DOJ encourages the ANSI to make it clear that SSOs can still use their own IPR policies and forms (i.e. they do not need to use the ANSI's sample form) when communicating the initiative.³³³

4 CONCLUSION

As this work is concerned with improving the SEP licensing framework by reforming IPR policies, the preceding part presents SEP-related licensing issues, their legal and practical consequences, and their relationship with IPR policies from the US perspective.

Standardisation and SEP-related issues are dynamic because stakeholders and their needs are constantly evolving. *Continental Automotive Systems, Incorporated v Avanci, L.L.C.*,³³⁴ where the claimant was an automotive components provider rather than an ICT company, is indeed a perfect example of this dynamism and ever-changing landscape. Until this case, all the SEP cases reviewed involved ICT companies and US antitrust agencies. However, the increasing importance of the IoT, expanding the interoperability requirement beyond the ICT sector and making ICT standardisation more relevant to other sectors, has inevitably started to transform the standardisation landscape as these newcomers' needs and business practices are not necessarily same as ICT companies. For example, most companies active in sectors other than ICT generally do not own SEPs that can be cross-licensed in the ICT standardisation setting. Another example of how the needs/practices of these newcomers are different from ICT companies would be the expectation of OEMs in the automotive sector to purchase components without any patent

³³² Makan Delrahim, "Telegraph Road": Incentivizing Innovation at the Intersection of Patent and Antitrust Law' (Speech 2018) <<https://www.justice.gov/opa/speech/file/1117686/download>> accessed 4 September 2019, 12.

³³³ *ibid* 13; Shapiro and Lemley, 'The Role of Antitrust in Preventing Patent Holdup' (n 156) 2053: In March 2018, the DOJ sent a letter to the ANSI warning them that they would be sceptical of SSO rules designed to shift bargaining leverage from SEP owners to potential licensees or vice versa.

³³⁴ *Continental Automotive Systems, Inc. v Avanci*, 27 F.4th 326 (5th Cir. 2022).

infringement concerns, which means licensing arrangements should take place at a higher level of the supply chain.

Unsurprisingly, and in parallel with the changing dynamics of standardisation, major SEP licensing issues are constantly evolving. Looking at the issues discussed in the cases reviewed shows changing concerns and how once very problematic issues were resolved making some of the discussions redundant. For example, in the cases discussed under 3.1.2.2., starting with *Potter*³³⁵ in 1981 until the last *Rambus* case was closed in 2008³³⁶ (with the exceptions of *Broadcom Corp. v Qualcomm Inc.*³³⁷ and *N-data*³³⁸), the main issue was non-disclosure of potential SEPs. However, since *Rambus*, which had a significant impact on SEP owners' conduct regarding the disclosure of potential SEPs, non-disclosure no longer gives rise to SEP disputes. As discussed in the following chapters, today, rather than the non-disclosure of potential SEPs (i.e. under-disclosure), the issue is disclosure of patents that are not truly essential for the standard (i.e. over-declaration).

SSOs should take the initiative to improve the SEP licensing framework to ensure its sustainability, and their primary tool for this purpose is IPR policies. Indeed, as discussed above, in 2019 VITA revised its IPR policy to improve the declaration of potential SEPs to ensure that members could make informed decisions when considering including a patented technology into a standard and to resolve disputes swiftly through internal arbitration.³³⁹ Though some of its amendments were controversial, IEEE also tried to overcome some SEP-related issues by revising its IPR Policy in 2007 and 2015.³⁴⁰ The US agencies could still support these attempts by providing guidance and assurances regarding SSOs' (and their members') potential antitrust liability. Given their previous work, it seems that the US agencies would be pleased to assume the responsibility of assisting SSOs in the task of improving SEP licensing. For example, the US agencies explained the instances when *ex ante* licensing negotiations could be anticompetitive and

³³⁵ *Potter Instrument Co., Inc. v Storage Technology* (n 87).

³³⁶ *Rambus Inc. v F.T.C.*, 522 F.3d 456 (D.C. Cir. 2008).

³³⁷ *Broadcom Corp. v Qualcomm Inc.* (n 16) 304.

³³⁸ *In the Matter of Negotiated Data Solutions LLC* (n 105).

³³⁹ DOJ, 'VITA Business Review Letter' (2006) (n 259).

³⁴⁰ DOJ, 'IEEE Business Review Letter' (2007) (n 273); 'IEEE Request Letter' (2014) (n 288); DOJ, 'IEEE Business Review Letter' (2015) (n 287).

provided some guidance in the Report of 2007.³⁴¹ Again, the DOJ reviewed the VITA's and IEEE's proposed changes to their IPR policies and disclosed its enforcement intentions.³⁴²

One can argue that drastic policy shifts, in particular on the DOJ's side since 2013 in parallel with administration changes, would prevent SSOs from being completely comfortable, particularly, with making controversial changes (e.g. restricting SEP-based injunctions). This is a perfectly valid point, indicating that some structural issues undermine legal certainty in the antitrust system. Though this discussion is outside the scope of this work, it is worth noting two initial thoughts which can help alleviate the concerns regarding the unpredictability of the US agencies: first, courts' judgments which inform the US agencies' practices and bind them; and second, the fact that they have regard to the developments in other jurisdictions, particularly in the EU, (e.g. the Draft Policy Statement 2021 provided guidance on good-faith negotiations very similar to the CJEU's guidelines in *Huawei v ZTE*).³⁴³

The dynamic nature of standardisation indicates that the SEP licensing framework needs to be improved by using flexible tools which could ideally evolve with ever-changing standardisation and the needs of stakeholders. This feeds into the argument that SSOs and their IPR policies are the most promising candidates for improving the SEP licensing framework. Besides having a flexible framework that can be adapted further down the line, the judgments/decisions referred to above also support the idea that revising IPR policies to improve SEP licensing is necessary, considering the weight given to the policies by courts and the US agencies. For example, in *Dell* the different interpretation of the VESA's IPR policy was one of the main reasons why Commissioner Azcuenaga drafted a detailed dissenting opinion.³⁴⁴ However, no case other than *Rambus* could show better how significant IPR policy provisions are for the outcome in SEP disputes. As discussed above, in the *Rambus* cases,³⁴⁵ it was mainly the unclear disclosure duty which prevented the Courts from ascribing liability to *Rambus*, despite their disapproval of *Rambus'* conduct. Similarly, the SSO members' understanding of the vague disclosure duty was

³⁴¹ DOJ and FTC, 'Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition' (Report 2007) (n 219) 49-56.

³⁴² DOJ, 'VITA Business Review Letter' (2006) (n 259); DOJ, 'IEEE Business Review Letter' (2007) (n 273); 'IEEE Request Letter' (2014) (n 288); DOJ, 'IEEE Business Review Letter' (2015) (n 287).

³⁴³ DOJ, USPTO and NIST, 'Draft Policy Statement on Licensing Negotiations and Remedies for Standard-Essential Patents Subject to Voluntary F/RAND Commitments' (248) 5-6.

³⁴⁴ *In the Matter of Dell Computer Corporation* (n 90) 627-643.

³⁴⁵ *Rambus Inc. v Infineon Technologies Ag*, 318 F.3d 1081 (2003); *Rambus Inc. v F.T.C.*, 522 F.3d 456 (D.C. Cir. 2008).

found to establish the duty in *Qualcomm Inc. v Broadcom Corp.*³⁴⁶ Further, in *Microsoft Corp. v Motorola Inc.*,³⁴⁷ the Court filled the gaps in the IPR policy before resolving the dispute and explicitly stated that the incomplete IPR policy did not help resolve FRAND disputes.

The settled caselaw that the FRAND commitment is a contractual relationship between SSOs and SEP owners (for which SSO members are third-party beneficiaries) and that where possible, the antitrust laws should not be used to remedy contractual disputes, points to the need to revise IPR policies to improve SEP licensing. This need is further highlighted in the recent cases dealing with SEP owners' practices of licensing FRAND-encumbered SEPs only to OEMs. For instance, in *Continental Automotive Systems, Incorporated v Avanci, L.L.C.* the Court concluded that Continental was not a third-party beneficiary to the FRAND commitments made by the SEP owners participating in Avanci's pool and, anyway, did not need licences for the SEPs as they were already licensed to OEMs.³⁴⁸ As discussed in detail in Chapters IV and V, the second part of this conclusion (i.e. Continental does not need licences), which relates to the meaning of the non-discriminatory concept, is quite controversial. Thus, it would be beneficial if SSOs further clarify their position as to whether only their members are third-party beneficiaries and, more importantly, whether refusing to license to anyone other than OEMs is in compliance with the FRAND commitment.

It is also worth mentioning the potential antitrust liability risk for SSOs where they facilitate activities harming competition. Although there is no case where an SSO was found liable for facilitating anticompetitive conduct indirectly by not taking any action, this does not mean they are entirely safe.

Another fundamental issue that should be considered in any attempt to improve the SEP licensing framework is political influence on the policies related to SEP licensing and the difficulty of reconciling views of the different camps (e.g. SEP owners-potential licensees; Republicans/Democrats). The Policy Statement the DOJ and USPTO had issued in 2013, which was updated two times due to changes in administration, is an excellent example showing that it is challenging to know right from wrong and, consequently, come up with

³⁴⁶ *Qualcomm Incorporated v Broadcom Corp.* (n 17).

³⁴⁷ *Microsoft Corp. v Motorola, Inc.*, 696 F.3d 872 (9th Cir. 2012).

³⁴⁸ *Continental Automotive Systems, Inc. v Avanci* (n 122) 5.

solutions which satisfy all the stakeholders.³⁴⁹ The near-impossibility of reconciling stakeholders' views might be overcome (at least to a certain degree) by introducing simple solutions to increase the chances that stakeholders will agree on them. Simplicity also covers gradual implementation rather than implementing all the proposals at once, so as not to complicate the system further and ensure that new tools/safeguards naturalise each other.

By analysing the underlying causes of SEP licensing issues carefully and introducing simple solutions in IPR policies, the SEP licensing framework could be improved sustainably. Based on the sources discussed under 3.1.3. above, the causes of SEP licensing issues are grouped in the following table. The points/questions referred to under each heading are the areas that SSOs could improve further by revising their IPR policies, and the rest of this part discusses potential proposals for IPR policies considering these points/questions.

³⁴⁹ DOJ and USPTO, 'Policy Statement on remedies for Standard-Essential Patents Subject to Voluntary F/RAND Commitments' (n 236); DOJ, USPTO and NIST, 'Policy Statement on Remedies for Standard-Essential Patents Subject to Voluntary F/RAND Commitments' (n 245); DOJ, USPTO and NIST, 'Draft Policy Statement on Licensing Negotiations and Remedies for Standard-Essential Patents Subject to Voluntary F/RAND Commitments' (n 248).

Table 2

| Sources of SEP Licensing Issues | | | | |
|---|---|--|---|--|
| Pre-FRAND (i.e. SEP disclosure stage) | | | Post-FRAND (i.e. licensing stage) | |
| Disclosure | Essentiality | FRAND commitment | Licensing negotiations | SEP owners' enforcement rights and dispute resolution |
| <ol style="list-style-type: none"> 1. Should SSOs favour early disclosure of potential SEPs? (<i>under-disclosure</i>) 2. Is it helpful to have more information about the licensing terms before including the proprietor tech into a standard? (<i>Ex ante disclosure of licensing terms</i>) | <ol style="list-style-type: none"> 1. What is an essential patent? 2. How to determine truly essential patents? | <ol style="list-style-type: none"> 1. What is the meaning of FRAND? 2. Reasonable 3. Non-discriminatory | <ol style="list-style-type: none"> 1. Ex ante v ex post? 2. Bilateral v collective? | <ol style="list-style-type: none"> 1. Under which conditions should SEP-based injunctions be available? (<i>SEP-based injunctive relief</i>) 2. Should SSOs facilitate the use of ADR/arbitration? |

Under-disclosure is mainly of historical interest now. As mentioned above, SEP owners took the warning and criticisms following the *Rambus* cases³⁵⁰ on board and adapted their behaviours accordingly. Therefore, discussions around whether an IPR policy sets a specific disclosure duty, the scope of such duty, and when SEP owners should disclose their potential SEPs to comply with it, appear to be redundant. However, for completeness, SSOs should ensure that their IPR policies include a clear disclosure duty.

This chapter and the following chapters aiming to illustrate the bigger picture of SEP licensing issues discuss historical issues like under-disclosure, although they have been subsequently fixed. However, for the analysis of specific proposals, a more pragmatic approach is adopted, and more weight is given to the contemporary SEP licensing issues. Hence, for example, the rest of this work discusses over-declaration and SEP-based injunctions in more detail while the discussion on under-declaration is limited.

³⁵⁰ *Rambus Inc. v Infineon Technologies Ag*, 318 F.3d 1081 (2003); *Rambus Inc. v F.T.C.*, 522 F.3d 456 (D.C. Cir. 2008).

In two sources published in 2007, the US agencies referred to potential procompetitive effects of *ex ante* disclosure of most restrictive licensing terms, particularly the possibility of increasing competition between alternative technologies before one of them is incorporated into a standard and allowing SSO members to make informed decisions.³⁵¹ However, there has been little focus on this point, as discussed further in Chapters IV and V, mainly due to the practical difficulties associated with its implementation and the questions regarding its effectiveness.

Regarding essentiality, even though it does not seem like an issue having immense traction, it would be beneficial to define *essential patent* clearly. Patent claims that might be reasonably necessary to practice a standard, which is the definition referred to in *Rambus Inc. v Infineon Technologies* and subsequently reiterated in *Qualcomm Inc. v Broadcom Corp.*, could guide SSOs in this area.³⁵² Such definition is critical to assess the essentiality of patents and for infringement claims considering that it is in principle easier to successfully claim infringement of a SEP by a product complying with the relevant standard than an ordinary patent.

FRAND is one of the main elements differentiating SEPs from ordinary patents, and, therefore, the meaning of FRAND has been at the centre of most SEP disputes.

The meaning of reasonable royalties and calculation methods used to determine reasonable royalties are among the main issues in the SEP licensing framework. It should be noted that this work does not discuss royalty calculation methods, which should be left to economists. Nevertheless, where necessary and to give some context to the *reasonable* concept, it makes some general comments about royalty calculation: such as its relationship with the patent valuation.

Non-discrimination has become one of the hot topics in standardisation, mainly due to SEP owners' refusal to license their SEPs to anyone other than OEMs which was a practice subject to two recent cases discussed above. The question, discussed in more detail

³⁵¹ DOJ and FTC, 'Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition' (Report 2007) (n 219) 9.

³⁵² *Rambus Inc. v Infineon Technologies Ag* (n 97) 1100-1101; *Qualcomm Incorporated v Broadcom Corp.* (n 17) 17.

in Chapter IV, is whether this practice is discriminatory or in compliance with the FRAND commitment, particularly considering the practices/arrangements complementing this conduct (e.g. have-made-rights³⁵³ and not asserting SEPs against component manufacturers). This is a complex issue that can affect stakeholders' interests significantly, so it may be unreasonable to expect SSOs to come up with a solution that would satisfy everyone. However, SSOs could start by providing some guidance on the fundamental meaning of non-discriminatory, specifically whether it means SEP owners need to offer identical licensing terms to all potential licensees. In line with the EU caselaw, SSOs could clarify that non-discrimination does not require SEP owners to offer identical terms to all the licensees; instead, it aims to level the playing field among competitors, as explained in *HTC Corp. v Telefonaktiebolaget LM Ericsson*.³⁵⁴ Thus, they can stipulate that SEP owners are free to offer different licensing terms unless this difference places a licensee at a competitive disadvantage.

The US agencies acknowledged the procompetitive effects of *ex ante* collective licensing negotiations.³⁵⁵ They stated that they would assess it within the rule of reason unless it is used to cloak anticompetitive practices such as price-fixing or collective hold-out.³⁵⁶ However, like *ex ante* disclosure of licensing terms, this idea, which poses more antitrust risks than *ex ante* disclosure of licensing terms, did not gain enough traction mainly because of concerns about increased costs and delays in standardisation.

One ancillary point to collective licensing worth mentioning is the potential procompetitive effects of SEP pools if they include complementary technologies and necessary safeguards to minimise antitrust risks, as the DOJ acknowledged in its business review letters discussed above.³⁵⁷ SSOs could take this point on board and consider encouraging or facilitating the use of pools, as discussed in more detail in Chapter IV.

³⁵³ Richard Vary, 'The case for the defence: Access for all v. license to all' (2020) <<https://www.twobirds.com/-/media/pdfs/practice-areas/ip/the-case-for-the-defence.pdf>> accessed 19 May 2021, 2, 3: A have-made-right is a right allowing a licensee to supply the licensed products from a third party who manufactured them without having a separate licence for the same patent. In practice, licence agreements do not refer to individual suppliers by name; instead, they are identified as a class that may benefit from this right.

³⁵⁴ *HTC Corp. v Telefonaktiebolaget LM Ericsson* (n 211) 485-486.

³⁵⁵ DOJ and FTC, 'Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition' (Report 2007) (n 219) 49-56; DOJ, 'IEEE Business Review Letter' (2007) (n 273) 11.

³⁵⁶ DOJ and FTC, 'Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition' (Report 2007) (n 219) 54-55.

³⁵⁷ DOJ, 'RFID Consortium LLC Business Review Letter' (2008) (n 308) 7; DOJ, 'MPEG LA, LLC Business Review Letter' (1997) (n 308) 9; DOJ, 'Avanci Business Review Letter' (2020) (n 308) 8.

SEP-based injunctions and whether FRAND commitment restricts SEP owners' right to injunctive relief have been controversial, particularly since the claims brought against Motorola by Microsoft and Apple.³⁵⁸ The issue is very sensitive for patent owners as the injunction is the most powerful tool they can use to enforce their patent rights, which are only valid for a limited time, and to protect the return on their R&D investments.

The Policy Statement 2013 and the Policy Statement 2019, withdrawing the former, focused on SEP-based injunctions and, as discussed above, disclosed contradictory views.³⁵⁹ The Draft Policy Statement 2021, which, if finalised, would supersede the Policy Statement 2019, provides helpful guidance on the remedies available to SEP owners and good-faith SEP licensing negotiations which might affect the availability of remedies in a potential dispute.³⁶⁰ In general, the Draft Policy Statement 2021 favours monetary remedies over injunctions and, whilst encouraging parties to engage in good-faith negotiations to agree on FRAND terms, provides some guidance as to the actual steps of the FRAND negotiation process.³⁶¹ The guidance is similar to the CJEU's *Huawei v ZTE*³⁶² guidelines (see Chapter III) and essentially encourages parties to communicate promptly with a genuine intention to agree on FRAND terms. SSOs might integrate this fundamental principle into their IPR policies and clarify that FRAND does not only apply to the final licensing terms; it is also a process, and both parties are obligated to engage in FRAND negotiations.

Again, related to SEP owners' enforcement rights, the Draft Policy Statement 2021 encourages parties to use ADR mechanisms in case negotiations fail to reduce transaction costs of determining FRAND terms.³⁶³ As discussed in Chapter V, based on the information received from an interview participant, it seems that arbitration is already used frequently to resolve disputes in bilateral SEP licensing negotiations. Thus, and to ensure more widespread use of arbitration which could level the playing field for potential SME

³⁵⁸ *Microsoft Corp. v Motorola, Inc.*, 696 F.3d 872 (9th Cir. 2012); *Apple Inc. v Motorola, Inc.*, 757 F.3d 1286 (2014).

³⁵⁹ DOJ and USPTO, 'Policy Statement on remedies for Standard-Essential Patents Subject to Voluntary F/RAND Commitments' (n 236); DOJ, USPTO and NIST, 'Policy Statement on Remedies for Standard-Essential Patents Subject to Voluntary F/RAND Commitments' (n 245).

³⁶⁰ DOJ, USPTO and NIST, 'Draft Policy Statement on Licensing Negotiations and Remedies for Standard-Essential Patents Subject to Voluntary F/RAND Commitments' (248) 1.

³⁶¹ *ibid* 5-6, 8.

³⁶² *Huawei v ZTE* (n 251).

³⁶³ DOJ, USPTO and NIST, 'Draft Policy Statement on Licensing Negotiations and Remedies for Standard-Essential Patents Subject to Voluntary F/RAND Commitments' (248) 6.

licensees, SSOs might consider introducing an internal arbitration mechanism to resolve certain SEP disputes such as the determination of FRAND terms.

Finally, there is no one-size-fits-all approach that all SSOs can implement; each should consider the dynamics of the area they are active in, the needs and resources of their members, and tailor their IPR policies accordingly. The DOJ has also confirmed this approach in its business review letter issued in 2017 regarding IEEE's IPR policy update.³⁶⁴ Their overarching aim should be gradually improving the SEP licensing framework, rather than having the perfect system by introducing several changes at once, which might overcomplicate the system and, counterintuitively, prejudice the incentive to participate in standardisation.

³⁶⁴ DOJ, 'IEEE Business Review Letter' (2007) (n 273) 12.

CHAPTER 3 EUROPEAN UNION

1 INTRODUCTION

Similar to Chapter II, this chapter aims to set out SEP licensing issues and particularly how they are linked to IPR policies in light of the EU caselaw. The focus is on the approach of the CJEU and the Commission given that their judgments/preliminary rulings³⁶⁵ and decisions are arguably the most influential legal instruments in terms of stakeholders' conduct in the standardisation ecosystem. Mirroring Chapter II, this chapter analyses the relevant legislation, EU-level caselaw³⁶⁶ and legal instruments (e.g. communications) produced by the Commission to illustrate their approaches in respect of: (i) the causes of SEP licensing issues; (ii) their consequences; (iii) links between these issues and IPR policies; and (iv) whether they could be minimised/eliminated by revising IPR policies.

It is worth noting that structurally there is no strict division between primary and secondary sources in this Chapter: instead, the aim is to illustrate the CJEU's and the Commission's approach by discussing their rulings, decisions, guidelines and anything that was published by the Commission and related to SEPs. Given that categorisation of EU-level legal instruments is not straightforward³⁶⁷ and also to have a structure mirroring Chapter II, the current structure is implemented. Therefore, below the next heading, (2) Relevant Legislation captures any formal law that cannot be attributed to the CJEU and the Commission, while there are some instruments that could be considered as informal or soft law made by the Commission referred to under (3) Approach of the CJEU and the Commission.

³⁶⁵ At the time this chapter is being written, the only CJEU decision dealing with a SEP-related issue/patent hold-up is *Huawei v ZTE* (n 251). Although the Düsseldorf court (Germany) had referred some questions to the CJEU in the *Nokia v Daimler* case (Civil Chamber 4c of the Regional Court Düsseldorf, case ID: 4c O 17/19) under TFEU Article 267, this was settled before the CJEU's review and ruling; TFEU Article 267 regulates the CJEU's power to give preliminary rulings on the interpretation of the Treaties and the validity and interpretation of acts the EU's institutions, bodies, offices or agencies. National courts and tribunals can seek a ruling from the CJEU.

³⁶⁶ Considering the decentralised enforcement of Article 101 and Article 102 with the implementation of Regulation 1/2003 [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 (2002) OJ L1/1] it may be argued that the national court/competition authorities' judgments/decisions applying the Community competition rules to SEP-related cases should also be reviewed. Such a review has not been made given (i) the different official language(s) used in the Member States, (ii) that Regulation 1/2003 retains the Community bodies' central role given by the principles laid down in Article 101 and Article 102 (Regulation 1/2003 Recital 34), (iii) that national courts and competition authorities are bound by Community law and must follow the CJEU's case law, (iv) that national courts and competition authorities cannot make a decision that will contradict with the Commission's decision adopted in the same case (Regulation 1/2003 Article 16) and (iv) that there is close cooperation between national competition authorities and the Commission to ensure the consistent enforcement of Article 101 and Article 102.

³⁶⁷ For further information see Paul Craig and Gráinne de Búrca, *EU Law: Text, Cases, and Materials UK version* (7th edn, OUP 2020) 142-160; Catherine Barnard and Steve Peers (eds), *European Union Law* (3rd edn, OUP 2020) 107-109.

The chapter consists of three main parts: the first part is related to the relevant legislation; the second part focuses on the CJEU's and the Commission's approach towards SEP licensing issues; and the final part, Conclusion, is the analysis of the preceding parts.

2 RELEVANT LEGISLATION

2.1. TFEU Article 101 and Article 102

The TFEU Article 101 (Article 101) prohibits agreements, decisions by associations of undertakings and concerted practices restricting competition and which may affect trade between Member States. Pursuant to Article 101(2), anything falling under Article 101(1) which does not benefit from the exemption provided for in Article 101(3)³⁶⁸ is automatically void. It is important to note that both *agreement* and *decision* are broad concepts.³⁶⁹ SSOs could be considered as *associations of undertakings* and their decisions including recommendations could be subject to Article 101.

In the context of standardisation, Article 101 is particularly important for assessing the compatibility of standardisation agreements aiming to define technical requirements of relevant products³⁷⁰ with competition law. In practice, it may be possible to argue that IPR policies, or their revisions, as an instrument regulating the relationship between SSOs and their members, belong to the *standardisation agreement* category and are subject to Article 101. The Horizontal Guidelines, which are discussed in detail below, provide a *safe harbour* as to Article 101 for standardisation agreements.³⁷¹

TFEU Article 102 (Article 102) deals with unilateral behaviour of undertakings and prohibits abuse of dominance. In order for Article 102 to apply, the dominance must be within the internal market or in a substantial part of it. Unlike Section 2 of the Sherman

³⁶⁸ Agreements, decisions and practices infringing Article 101(1) could escape from its application if they satisfy the conditions of Article 101(3) cumulatively. These conditions are (1) to contribute to improving the production or distribution of goods or to promoting technical or economic progress, (2) to allow consumers a fair share of the resulting benefit, (3) not to impose restrictions which are not indispensable to the attainment of these objectives and (4) not to afford the relevant undertakings the possibility of eliminating competition in the relevant market substantially.

³⁶⁹ For the construction of the agreement concept see Case T-41/96 *Bayer AG v Commission* EU:T:2000:242.

³⁷⁰ Communication from the Commission Guidelines on the applicability of Article 101 of the Treaty on the functioning of the European Union to horizontal co-operation agreements [2011] OJ C11/1 (Horizontal Guidelines) [257].

³⁷¹ For more information about Article 101 and more specifically its application to standardisation agreements see Alison Jones et al, *Jones & Sufrin's EU Competition Law: Text, Cases, and Materials* (7th edn, OUP 2019) 137-276, 727-730; Alternatively see Richard Wish and David Bailey, *Competition Law* (9th edn, OUP 2018) 82-176, 619-622.

Act (which refers to *monopolisation* instead of *dominance*), *dominance* is a precondition for Article 102; it does not forbid the acquisition of dominance. The CJEU's dominance definition relies on an undertaking's economic strength and ability to act independently of its competitors, customers and consumers.³⁷² The definition of the relevant market is the first step to assess dominance and, as discussed in detail below in 3.1.1. in the SEP licensing framework, generally the relevant product market corresponds to the technology protected by the relevant SEP. Thus, it is relatively easy to establish dominance in SEP cases, although it is settled caselaw that mere possession of IPRs does not automatically confer a dominant position. Whilst being a useful indicator in assessing dominance, market share is not the only factor; barriers to entry and expansion as well as countervailing buyer-power could also be considered particularly depending on the market share of the undertaking concerned and its competitors.

The caselaw on refusal to license IPRs as an abusive conduct within the scope of Article 102 is also relevant to SEP licensing. Refusal to license IPRs is essentially the application of refusal to supply to cases dealing with the licensing of IPRs. In principle, all undertakings, including dominant ones, have no duty to deal with other undertakings. However, in exceptional circumstances³⁷³ dominant undertakings may not refuse to supply/license without infringing Article 102. *Magill*,³⁷⁴ *IMS health*³⁷⁵ and *Microsoft*³⁷⁶ set out the conditions for applying Article 102 to refusals to license IPRs.³⁷⁷

In general terms the right to property should also be considered in the context of abusive refusal to license IPRs, particularly to balance the protection conferred to IPRs at the

³⁷² Case 27/76 *United Brands v Commission* EU:C:1978:22 [65]; Case 85/76 *Hoffmann-La Roche & Co AG v Commission* EU:C:1979:36 [38]-[39]; Commission, 'Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings' [2009] OJ C45/2 (Guidance Paper), [10]-[11].

³⁷³ The Guidance Paper [81]: The Commission will consider the following to apply Article 102 where a dominant undertaking has refused to supply - (i) the refusal should relate to a product/service that is objectively necessary to compete effectively in a downstream market; (ii) it is likely to lead to the elimination of effective competition on the downstream market; and (iii) it is likely to lead to consumer harm; Commission, 'DG Competition discussion paper on the application of Article 82 of the Treaty to exclusionary abuses' <<https://ec.europa.eu/competition/antitrust/art82/discpaper2005.pdf>> accessed 12 April 2021 [224]-[225]: Five conditions for abusive de novo refusal to supply - (1) refusal, (2) dominance, (3) indispensable input, (4) likely market distorting foreclosure effect and (5) lack of objective justification.

³⁷⁴ Case C-241-242/91 P *RTE & ITP v Commission* EU:C:1195:98.

³⁷⁵ Case C-418/01 *IMS Health GmbH & Co OHG v NDC Health GmbH & Co KG* EU:C:2004:257.

³⁷⁶ Case T-201/04 *Microsoft Corporation v European Commission* EU:T:2007:289.

³⁷⁷ Commission, 'DG Competition discussion paper on the application of Article 82 of the Treaty to exclusionary abuses' (n 373) [239]: In addition to the five conditions of abusive refusal to supply, in case of refusal to license IPRs, the refusal should prevent the emergence of a new product. In *Microsoft Corporation v European Commission*, this requirement has been interpreted more broadly to include the technical development of an existing product.

national level and to preserve effective competition in the Community. It has been recognised that mere IPR ownership does not provide a valid justification for an abusive conduct and indeed, restricting IPRs might be permissible to maintain effective competition.³⁷⁸

The Enforcement Directive,³⁷⁹ which mainly aims to harmonise rules of Member States on IPR enforcement, is another relevant piece of legislation. Article 3(2), setting out that all the remedies covered by the Directive should be effective, proportionate and dissuasive, is particularly important in terms of SEP-based injunctions.³⁸⁰

Finally, at the time of writing, the Commission is consulting on a new initiative, *new framework for standard-essential patents*, aiming to create a fair and balanced licensing framework which may combine legislative and non-legislative elements.³⁸¹

2.2. Regulation 1025/2012

One of the main legal instruments dealing with standardisation in the EU is Regulation 1025/2012, which aims to ensure the effectiveness and efficiency of standards and standardisation in the Union.³⁸² It regulates standard-related matters at a higher level and mostly focuses on issues like setting European standards upon the request of the Commission, increasing the participation of SMEs in standardisation, and financing

³⁷⁸ TFEU Article 345 ‘The Treaties shall in no way prejudice the rules in Member States governing the system of property ownership.’; Case T-201/04, *Microsoft Corporation v European Commission* EU:T:2007:289 [690]-[691]; *Huawei v ZTE* (n 251) [42] refers to the Charter of Fundamental Rights of the European Union [(2012) OJ C326/391] (Charter) Article 17 Right to Property and Article 47 Right to an effective remedy and to a fair trial; For more information about Article 102 and more specifically abusive refusal to supply/license IPRs see Jones et al (n 371) 277-355, 484-522; Alternatively see Wish and Bailey (n 371) 180-221, 713-726, 814-820, 822-824.

³⁷⁹ Directive 2004/48/EC of the European Parliament and of the Council of 29 April 2004 on the enforcement of intellectual property rights [2004] OJ L195/6 (Enforcement Directive).

³⁸⁰ The Enforcement Directive Recital 12: ‘This Directive should not affect the application of the rules of competition ... The measures provided for in this Directive should not be used to restrict competition unduly in a manner contrary to the Treaty.’

³⁸¹ Intellectual property - new framework for standard-essential patents <https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13109-Intellectual-property-new-framework-for-standard-essential-patents_en> accessed 26 March 2022.

³⁸² 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 [2012] OJ L 316/13 (Regulation 1025/2012) Recital (52).

European standardisation organisations.³⁸³ Certain parts of the Regulation are relevant to this work.

Regulation 1025/2012 makes it clear that European standardisation is founded on the World Trade Organisation's founding standardisation principles of coherence, transparency, openness, consensus, voluntary application, independence from special interests and efficiency.³⁸⁴ It also acknowledges the economic benefits of standardisation and confirms that standardisation increases competition.³⁸⁵ Further, the Regulation made it clear that the European standardisation organisations are subject to competition law to the extent that they can be considered to be an undertaking or association of undertakings in the context of Article 101 and 102.³⁸⁶

3 APPROACH OF THE CJEU AND THE COMMISSION

This section sets out the views of the CJEU and the Commission on various aspects of SEP licensing issues. First, the CJEU's preliminary ruling and the Commission's decisions are discussed, before moving to other instruments (e.g. Communications, Guidelines) produced by the Commission.

3.1. The CJEU's Preliminary Ruling and the Commission's Decisions

3.1.1. CAUSES OF SEP LICENSING ISSUES

As also discussed in the previous chapter, SEP owners' increased market power as a result of their technologies being included into a standard is one of the main reasons for more pronounced SEP licensing issues. This part focuses on the assessment of this increased

³⁸³ Regulation 1025/2012 Article 1; Regulation 1025/2012 Annex I: European standardisation organisations are European Committee for Standardisation (CEN), European Committee for Electrotechnical Standardisation (CENELEC) and ETSI.

³⁸⁴ Regulation 1025/2012 Recital (2); European Parliament resolution of 21 October 2010 on the Future of European standardisation [2012] OJ C70 E/56, [8]-[9]: '[The European Parliament] [c]onsiders that these principles could be complemented by additional attributes such as maintenance, availability, quality, neutrality and accountability; believes that all those principles need to be further detailed and defined, and that a specific monitoring system must be introduced to ensure their implementation ... considers, therefore, that a vital element is the addition of the principle of "appropriate representation" ...'; European Parliament resolution of 21 October 2010 on the Future of European standardisation [2012] OJ C70 E/56, [66]: '[A] correct balance should be established between the interests of the users of standards and the rights of owners of intellectual property; calls on European and national standards bodies to be particularly vigilant when developing standards based on proprietary technologies, in order to allow broad access to all users; stresses the need to ensure that licences for any essential IPRs contained in standards are provided on fair, reasonable and non-discriminatory conditions.'

³⁸⁵ Regulation 1025/2012 Recital (3).

³⁸⁶ Regulation 1025/2012 Recital (13).

market power considering the relevant product market definition and the factors that are considered in the dominance assessment in SEP cases.

The Commission's provisional dominance assessment in the *Rambus* case³⁸⁷ is a useful guide as to its approach towards SEP-based dominance. This case was the extension of the US *Rambus* cases³⁸⁸ so the factual background is the same as the *Rambus* cases discussed in Chapter II: the allegation was that Rambus deceptively did not disclose its potential SEPs during the development of the JEDEC's standards for DRAM chips and subsequently claimed abusive royalties for these patents. Similar to the dominance assessment in *Rambus Inc. v FTC* in the US, the Commission provisionally concluded that Rambus held a dominant position in the worldwide market for DRAM interface technology³⁸⁹ considering that: (i) DRAM chips compliant with the JEDEC's standards represented more than 96% of overall DRAM chips sales between 2004 and 2008; (ii) all market participants confirmed that they need to comply with these standards in order to sell DRAM chips worldwide; (iii) 90% of worldwide DRAM production was exposed to Rambus' patent claims; and (iv) the industry was locked into the JEDEC's standards³⁹⁰ due to the significant cost associated with switching from the existing standards to new ones.³⁹¹ The decision also highlighted that there were non-proprietary alternative technologies that could have been used in the standards instead of Rambus' patented technologies so JEDEC might have adopted the standards free of the patents if Rambus had disclosed them.³⁹²

Samsung's attempts to seek injunctions against Apple in several Member States, based on its SEPs covered by ETSI's UMTS³⁹³ standard and despite its FRAND undertaking, gave rise

³⁸⁷ *Rambus* (Case COMP/38.636).

³⁸⁸ *Rambus* (Case COMP/38.636) Memo/07/330 [2007], 2; *Rambus Inc. v F.T.C.*, 522 F.3d 456 (D.C. Cir. 2008) and *Rambus Inc. v Infineon Technologies Ag*, 318 F.3d 1081 (2003).

³⁸⁹ *Rambus* (Case COMP/38.636) Commitments Decision [2009], [16]-[17].

³⁹⁰ *Rambus* (Case COMP/38.636) Decision (n 389) [47]: The Commission stated that the effects of Rambus' conduct also extend to the standards adopted by the JEDEC after Rambus left the organisation.

³⁹¹ *ibid* [2], [19], [20], [22]; Even though the market definition analysis is very brief in the decision, after determining the relevant market as the worldwide market for DRAM interface technology, the Commission considered the effects of the JEDEC standards on the market to assess the dominance of Rambus; *ibid* [27]-[28]: The Commission used the term, *patent ambush* to describe the potential SEPs Rambus did not disclose during the standardisation process and stated that Rambus 'have been abusing its dominant position by claiming royalties for the use of its patents ... at a level, which absent its allegedly intentional deceptive conduct, it would not have been able to charge.'

³⁹² *ibid* [43], [46].

³⁹³ *Samsung - Enforcement of UMTS standard essential patents* (Case AT.39939) Commitments Decision [2014], [35]: 'UMTS is a third generation ("3G") mobile and wireless communications system capable of supporting in particular innovative multimedia services, beyond the capability of second-generation systems such as GSM ("2G"), and capable of combining the use of terrestrial and satellite components.'

to Commission proceedings.³⁹⁴ In this case, the Commission determined the relevant product markets as ‘... the licensing of the technologies as specified in the UMTS standard technical specifications, on which each of Samsung’s UMTS SEPs reads.’³⁹⁵ The relevant markets were limited to the patented technologies of Samsung which were essential to the UMTS standard and Samsung was found to be dominant in these markets given that: (i) Samsung had a monopoly in these markets; (ii) complying with the standard was indispensable for the market players; and (iii) the industry was locked into the standard, as the undertakings invested heavily in standard-compliance by relying on the FRAND commitments made by SEP owners including Samsung.³⁹⁶ The Commission also considered the countervailing power of some potential licensees but concluded that this did not affect the dominance of Samsung as there were no substitutes for the technologies protected by Samsung’s SEPs and there was no alternative to the relevant standard in the relevant geographic market (i.e. EEA).³⁹⁷

*Motorola GPRS*³⁹⁸ facts and definition of the relevant product market are similar to those of *Samsung*. The Commission initiated proceeding upon Apple’s complaint regarding an injunction based on Motorola’s patents, one of which was a SEP reading onto ETSI’s GPRS standard (i.e. EP 1010336, Cudak GPRS SEP).³⁹⁹ Before moving to the Commission’s assessment, it is useful to give more information about the factual background of the dispute.

Initially, Motorola had licensed the Cudak GPRS SEP with a number of chipset manufacturers, but Motorola terminated some of these licences and invited Apple to engage in licensing negotiations.⁴⁰⁰ They had negotiated on and off.⁴⁰¹ In 2010, US patent litigation had been initiated and in 2011 Motorola sought an injunction against Apple in Germany.⁴⁰² Apple also started patent infringement actions based on non-SEPs against Motorola in Germany.⁴⁰³ In the course of the injunction proceedings, Apple made six licensing offers to avail itself of the defence set out in the Federal Court of Justice (Germany)’s *Orange Book* judgment which constitutes the foundation of the German

³⁹⁴ *Samsung - Enforcement of UMTS standard essential patents* (Case AT.39939).

³⁹⁵ *Samsung - Enforcement of UMTS standard essential patents* (Case AT.39939) Decision (n 393) [41].

³⁹⁶ *ibid* [45]-[49].

³⁹⁷ *Samsung - Enforcement of UMTS standard essential patents* (Case AT.39939) Commitments Decision [2014] [44], [51].

³⁹⁸ *Motorola Enforcement of GPRS Standard Essential Patents* (Case AT.39985).

³⁹⁹ *Motorola Enforcement of GPRS Standard Essential Patents* (Case AT.39985) Prohibition Decision [2014] [95].

⁴⁰⁰ *ibid* [102]-[109].

⁴⁰¹ *ibid* [111].

⁴⁰² *ibid* [111], [115].

⁴⁰³ *ibid* [117].

caselaw on SEP-based injunctions.⁴⁰⁴ According to *Orange Book*, a SEP-based injunction is abusive only in certain circumstances, namely where the alleged infringer: (i) has made an unconditional offer to conclude a licensing agreement; and (ii) has accounted for its previous infringing acts and agreed to pay for these. Apple also made some offers outside the injunction proceedings.⁴⁰⁵ After Apple's third licensing offer, made in the course of the injunction proceedings, the Mannheim District Court granted an injunction as it found Apple's offer insufficient to meet the *Orange Book* defence.⁴⁰⁶ In the meantime, Apple had made its fifth licensing offer and requested the Karlsruhe Appellate Court to stay the enforcement of the injunction. However, the Appellate Court found the offer insufficient considering the *Orange Book* requirements and consequently rejected Apple's stay request.⁴⁰⁷ Then, Apple made its sixth licensing offer and again requested the Appellate Court to stay the enforcement of the injunction, which was accepted, and the enforcement was stayed for the duration of the appeal proceedings.⁴⁰⁸ It is worth noting that, before the Appellate Court stayed the enforcement in favour of Apple, Motorola had enforced the injunctions and for a short while (i.e. between the evening of 2 February 2012 and the morning of 3 February 2012), Apple was temporarily excluded from online sales in Germany.⁴⁰⁹ Apple and Motorola had signed a licensing agreement in 2012 based on Apple's sixth licensing offer and both sides filed declarations in the German courts confirming that proceedings against each other were moot, except Motorola's pending damages claim for past infringement and accounting before the Karlsruhe Appellate Court.⁴¹⁰ However, the parties could not agree on the FRAND royalty rate. Motorola requested the Mannheim District Court to determine the rate in October 2012, while in June and September 2013, by way of cross-actions, Apple requested the same court to declare: (i) the licensing agreement partially invalid; (ii) that it could rely on the licensing agreement between Motorola and a chip manufacturer, terminated by Motorola; and (iii) that Motorola's unilateral royalty rate determination was not equitable nor binding.⁴¹¹ On 14 February 2012, Apple lodged a complaint with respect to Motorola's enforcement of its FRAND encumbered SEPs in Germany to the Commission.

The Commission concluded that the relevant product market is the market for the licensing of the technology for which Cudak GPRS SEP is essential, given that there are no viable substitutes to the GPRS standard in the relevant geographic market, the EEA,

⁴⁰⁴ *ibid* [120].

⁴⁰⁵ *ibid* [121].

⁴⁰⁶ *ibid* [130].

⁴⁰⁷ *ibid* [134], [142].

⁴⁰⁸ *ibid* [145], [151].

⁴⁰⁹ *ibid* [313]-[317].

⁴¹⁰ *ibid* [162]-[165].

⁴¹¹ *ibid* [167]-[176].

and anyone who wants to produce a standard-compliant product must get a licence from Motorola.⁴¹² The Commission also referred to the Horizontal Guidelines requiring a definition of the relevant technology market when IPRs are marketed separately from the related products.⁴¹³

In terms of dominance, after mentioning that mere SEP ownership and its exercise does not automatically confer dominance, the Commission concluded that Motorola was dominant in the relevant market considering its 100% market share, the indispensability of the standard, and the fact that the industry was locked into the GPRS technology.⁴¹⁴ There was a detailed countervailing buyer-power assessment in the decision and the following points are particularly worth mentioning:

- i. The dominance assessment was based on the Motorola's economic strength, not the bargaining power of Apple;
- ii. The bargaining power and economic strength of a potential licensee are not the same as countervailing buyer-power. Even though in the present case Apple could be considered a potential licensee with economic strength and bargaining power, these do not necessarily indicate countervailing buyer-power as the buyer cannot switch to competing suppliers and this economic strength/buyer-power only shields a particular group of customers from Motorola's market power;
- iii. The fact that Apple agreed to disadvantageous licensing terms as a result of Motorola's injunction threat also showed that Motorola was able to act independently of any alleged constraints (i.e. dominance);
- iv. Apple's general policy of not seeking SEP-based injunctions weakened the argument as to the existence of countervailing buyer-power.⁴¹⁵

⁴¹² *ibid* [184]-[213], [214]-[220].

⁴¹³ The Horizontal Guidelines [116] (footnotes omitted).

⁴¹⁴ *Motorola Enforcement of GPRS Standard Essential Patents (Case AT.39985) Decision (n 399) [223], [225]-[236]*: The Commission, amongst other things, stated that (i) it is unlikely that an alternative to the existing GPRS technology will emerge in the medium term and (ii) it would be time consuming to adopt a new standard which avoids Motorola's SEP; *Motorola Enforcement of GPRS Standard Essential Patents (Case AT.39985) Decision (n 399) [87]-[89]*: 'GPRS is a technology used for wireless data transmission which provides a packet oriented mobile data service. ... It provides Internet connectivity on mobile devices and support for other important mobile telephony functions such as billing, SMS messaging, multimedia messaging (MMS) and others. ... Unlike GSM, which uses circuit switched techniques, GPRS technology uses packet switching for Internet use. ... As a result, GPRS technology entails several benefits.'

⁴¹⁵ *ibid* [240]-[244], [257], [265]-[268]; Damien Geradin, 'Pricing abuses by essential patent holders in a standard-setting context: a view from Europe' (2009) 76 *Antitrust L.J.* 326, 336-339: Geradin thinks the assumption that SEP owners automatically enjoy significant power once a patent is incorporated into a standard (i.e. elimination of competition between alternative technologies) ignores the horizontal and dynamic constraints that SEP owners are generally subject to. Each SEP owner is constrained with royalties of IPRs complementing their SEPs as well as the knowledge that it may be impossible for them to get a return of their R&D investment if the standard-compliant product fails in the downstream market as a result of high royalties which (at least in part) could be passed to final consumers leading them switching to another product. They referred to the possibility of being

3.1.2. CONSEQUENCES OF SEP LICENSING ISSUES

Alongside its recognition of the generally procompetitive nature of standards setting, the Commission is of the opinion that they can help to advance the EU-specific objective of single market integration.⁴¹⁶ However, it also acknowledges that once a particular technology is incorporated into a standard, alternative technologies may disappear from the market and SEP owners can engage in anticompetitive conduct: for example, by refusing to license their SEPs or requesting excessive royalties.⁴¹⁷ This part discusses the general consequences of licensing issues associated with SEPs and refers to the potential claims and remedies that are available in the EU.

3.1.2.1. Harming overall competition

The *Texas Instrument/Qualcomm*⁴¹⁸ investigation was initiated as a result of complaints⁴¹⁹ alleging that Qualcomm had been abusing its dominance through non-FRAND licensing practices and terms for the SEPs covered by the CDMA standard and the wideband CDMA (WCDMA) standard which is a part of the 3G standard. The Commission directly referred to the following negative effects of charging non-FRAND royalties when it initiated formal proceedings against Qualcomm: (i) final consumers paying higher prices and slower development of the relevant standard (i.e. 3G); (ii) inhibited growth of standard and its negative effects on economic efficiency; (iii) detrimental effects on standardisation in general and on the adoption of the relevant next-generation standard.⁴²⁰

In *Rambus*, after referring to the importance of standardisation for (technical) development, the Commission stated that Rambus' alleged conduct (i.e. not disclosing

punished for charging/requesting excessive royalties in the dynamic standardisation environment (e.g. by not including a SEP owner's technology in a new standard) as another factor constraining SEP owners, which may make it difficult to find them in a dominant position.

⁴¹⁶ *Samsung - Enforcement of UMTS standard essential patents (Case AT.39939)* Commitments Decision [2014] [22].

⁴¹⁷ *Samsung - Enforcement of UMTS standard essential patents (Case AT.39939)* Commitments Decision [2014] [28] and [39]; *Samsung - Enforcement of UMTS standard essential patents (Case AT.39939)* Commitments Decision [2014] [40]; *Samsung - Enforcement of UMTS standard essential patents (Case AT.39939)* Press Release IP/12/1448 [2012]: The Commission referred to FRAND commitment as a tool to relieve the SEP-related competition concerns, including patent hold-up, while remunerating SEP owners fairly.

⁴¹⁸ *Texas Instruments/Qualcomm (Case AT.39247)*.

⁴¹⁹ The complainants are Ericsson, Nokia, Texas instruments, Broadcom, NEC and Panasonic.

⁴²⁰ *Texas Instruments/Qualcomm (Case AT.39247)* Memo/07/389 [2007]; In the same vein *Motorola Enforcement of GPRS Standard Essential Patents (Case AT.39985)* Decision (n 399) [284].

potential SEPs and asking for higher royalties by taking advantage of the essentiality feature of its patents) undermined confidence in standardisation in general.⁴²¹ More specifically, the Commission pointed out that a patent owner can distort competition between alternative technologies during standardisation by concealing information, excluding alternatives unfairly and erecting barriers to entry which allow it to charge monopoly or artificially inflated royalties for its SEPs.⁴²²

Samsung is a case in which the Commission investigated the potential anticompetitive effects of seeking SEP-based injunctive relief despite a FRAND commitment. The Commission Vice President in charge of competition policy Joaquín Almunia said that

Enforcing patents through injunctions can be perfectly legitimate. However, when patents are standard-essential, abuses must be prevented so that standard-setting works properly and consumers do not have to suffer negative consequences from the so-called patent wars.⁴²³

The Commission also referred to the potential increase in prices, reduction in product choice and impediments to innovation by distorting SEP licensing negotiations with the threat of an injunction which could result in exclusion of the (potential) licensees' product from the market.⁴²⁴

As mentioned above, the fact that Motorola sought and enforced a SEP-based injunction against Apple despite its FRAND commitment gave rise to the Commission's investigation. Taking advantage of making a decision pursuant to Article 7(1) of Regulation 1/2003,⁴²⁵ the Commission explained the anticompetitive effects of Motorola's SEP-based injunction in detail under three headings: (i) the temporary ban on the online sale of Apple's standard-complaint products in Germany; (ii) Apple's acceptance of disadvantageous licensing terms; and (iii) undermining confidence in standardisation.⁴²⁶

⁴²¹ *Rambus* (Case COMP/38.636) Decision (n 389) [3], [27]-[29].

⁴²² *Rambus* (Case COMP/38.636) Memo/09/544 [2009], 3.

⁴²³ *Samsung - Enforcement of UMTS standard essential patents* (Case AT.39939) Press Release IP/13/971 [2013], 1, citing Joaquín Almunia.

⁴²⁴ *Samsung - Enforcement of UMTS standard essential patents* (Case AT.39939) Press Release IP/13/971 [2013], 1.

⁴²⁵ Regulation 1/2003; 'Where the Commission, acting on a complaint or on its own initiative, finds that there is an infringement of Article 81 [101] or of Article 82 [102] of the Treaty, it may by decision require the undertakings and associations of undertakings concerned to bring such infringement to an end. For this purpose, it may impose on them any behavioural or structural remedies which are proportionate to the infringement committed and necessary to bring the infringement effectively to an end.'

⁴²⁶ *Motorola Enforcement of GPRS Standard Essential Patents* (Case AT.39985) Decision (n 399) [308]-[420].

Concerning the temporary ban on online sale of Apple products, the Commission highlighted that SEP owners might eliminate consumer choice by excluding products, including the most innovative ones, from the market.⁴²⁷ Motorola's argument that the effects of this ban were trivial, particularly because Apple only stopped offering the products online for a short time, was not accepted by the Commission on the grounds that: (i) Article 102 prohibits conduct 'that tends to restrict competition or is capable of having that effect, regardless of its success' and the duration of this restriction is irrelevant; (ii) if Apple had not accepted disadvantageous licensing terms, the duration of the ban would have been longer; and (iii) there were pending injunction proceedings aiming to stop sales of the products via Apple's brick and mortar stores.⁴²⁸

The Commission took the view that Apple was unlikely to have agreed to disadvantageous licensing terms had it not faced the risk of exclusion of its products from the German market. The Commission first evaluated the termination clause requiring Apple to withdraw any pending invalidation actions and oppositions filed against Motorola's SEPs covered by the Settlement Agreement⁴²⁹ signed by the parties and allowing Motorola to terminate the agreement should Apple challenge their validity in the future.⁴³⁰ Apple did not want to accept the inclusion of the termination clause until Motorola enforced the injunction as it thought that some of the patents declared by Motorola were not essential and, in any event, could be invalidated by Apple.⁴³¹ The Commission concluded that the termination clause might prejudice Apple's position in royalties negotiations and lead to the payment of royalties for invalid SEPs by all other potential licensees.⁴³² Here, the Commission highlighted the importance of invalidating patents that were granted in error in the first place for the whole industry.⁴³³ The Commission also referred to how time- and money-consuming patent invalidations are and that not all potential licensees have the resources to fund such actions.⁴³⁴ Thus, the Commission considered the practical effect of this clause in preventing a company like Apple, which is financially one of the

⁴²⁷ *ibid* [312].

⁴²⁸ *ibid* [317]-[321].

⁴²⁹ *ibid* [162]-[166]; Motorola and Apple signed a settlement agreement/licensing agreement based on the sixth licensing offer made by Apple during the injunction proceedings.

⁴³⁰ *ibid* [329]; Although Motorola sought an injunction based on its Cudak GPRS SEP and Whinnett SEP (i.e. EP 1053613), the German court concluded that Motorola could not prove the infringement of the latter, so the Commission's decision only focussed on the Cudak GPRS SEP. The licensing offers and subsequently the Settlement Agreement signed between the parties cover Motorola's entire German 2G, 3G and Wi-Fi/WLAN SEP portfolio.

⁴³¹ *Motorola Enforcement of GPRS Standard Essential Patents (Case AT.39985) Decision (n 399) [334], [414]*.

⁴³² *ibid* [336].

⁴³³ *ibid* [378]; *ibid* [382]: 'According to a 2011 Study on the Interplay between Standards and Intellectual Property Rights ... on average more than 30% of European invalidity actions result in ... invalidation ... and approximately 50% of patents in suit are found not to be infringed.'

⁴³⁴ *ibid* [383].

strongest competitors of Motorola in the industry, from challenging the validity of Motorola's patents: namely, providing a very strong shield for the SEPs covered by the Settlement Agreement.⁴³⁵

The second disadvantageous licensing term that the Commission evaluated was the inclusion of the iPhone 4S in the list of infringing products stipulated by the Settlement Agreement. It concluded that Motorola may be requesting undue royalties from Apple as it was not certain that the iPhone 4S infringed the SEPs.⁴³⁶ Finally, the Commission also considered that Apple's acknowledgement of Motorola's past infringement claims for the SEPs covered by the Settlement Agreement was disadvantageous for Apple given that Apple's second licensing offer made during the injunction proceedings already provided sufficient safeguards enabling Motorola to claim damages.⁴³⁷ As will be discussed in more detail below under 3.2.5., the Commission concluded that Apple was a willing licensee after its second offer.

Discussing undermining confidence in standardisation as one of the anticompetitive effects of Motorola's conduct, the Commission stated that its decision did not affect standardisation negatively by creating a risk of patent hold-out given that Apple, having agreed to be bound by FRAND terms set by a competent court, is a willing licensee.⁴³⁸

3.1.2.2. Potential claims and remedies

Compared to the US, potential claims and remedies utilised in SEP cases are more limited at the EU level. As discussed in more detail in the Conclusion below, this is the result of differences between the court systems in the EU and the US.

In the US, decisions made by District Courts could be appealed before appellate courts which are in the jurisdictional scope of this research. However, in terms of the EU, the work focuses on the EU level rather than the wider EU comprising national courts of the Member States, and the CJEU does not function as an appellate court for national

⁴³⁵ *ibid* [383].

⁴³⁶ *ibid* [386].

⁴³⁷ *ibid* [398], [404].

⁴³⁸ *ibid* [415]-[416], [419].

courts.⁴³⁹ For completeness, the preliminary rulings system is reference-based, not an appeal system, meaning that after the CJEU rules on the referred issues, the case is sent back to the national court which will apply the law to the facts of the case.⁴⁴⁰ Therefore, decisions of national courts (including national appellate courts), where SEP claims might be more diverse, are not within the scope of this work.

In terms of SEP cases, decisions made at the EU level are either the judicial review of the Commission's decisions applying Article 101, and mostly Article 102, or national references made to the CJEU to clarify the interpretation of these rules. Thus, at the EU level, the main ground in SEP cases is Article 102 and whether a SEP owner's particular conduct constitutes an abuse of dominance.⁴⁴¹ However, the underlying allegedly⁴⁴² abusive conduct is diverse: non-FRAND licensing terms; non-disclosure of potential SEPs and charging unreasonable royalties; seeking/enforcing SEP-based injunctions; and taking SEP-based patent infringement actions.

For instance, in *Texas Instrument/Qualcomm* the question was whether Qualcomm was abusing its dominance by not licensing its SEPs on FRAND terms despite its FRAND commitment,⁴⁴³ while in *Rambus* there was no FRAND commitment and the issue was charging unreasonable royalties by intentionally concealing potential SEPs.⁴⁴⁴ In *Samsung* and *Motorola GPRS*, the Commission considered the issue of whether seeking/enforcing

⁴³⁹ Craig and Búrca (n 367) 515.

⁴⁴⁰ *ibid*; *ibid* 515, 526, 549: Craig and Búrca stated that the relationship between the CJEU and national courts, which had been chiefly horizontal and bilateral, became vertical and multilateral in the sense that rulings given in response to a particular preliminary ruling request have an impact on all national courts; they are authoritative where the point of law is the same.

⁴⁴¹ Haris Tsilikas, 'Huawei v. ZTE in context - EU competition policy and collaborative standardisation in wireless telecommunications' (2017) 48(2) IIC 151, 164-165: Tsilikas thinks that one of the main reasons competition law has been prominent in the EU is that, unlike US courts recognising FRAND commitments as contracts and utilising contract law remedies in SEP disputes, German courts construe these commitments as *declarations of an obligation to conclude a contract*. This prevents claimants from relying on contractual remedies in FRAND disputes. Furthermore, the fact that German patent law and civil procedure rules as to injunctive reliefs are not as flexible as US law has contributed to the competition law's dominance in European SEP disputes; *Unwired Planet v Huawei* [2020] UKSC 37 [2021] 1 All ER 1141 [8], [14], [61], [88]: The Court recognised the contractual nature of the ETSI IPR policy including FRAND commitments. Regarding injunctive reliefs, it seems that the UK also recognises the implications of contract law and has created a safe contractual harbour for potential licensees.

⁴⁴² Given that except *Motorola GPRS*, there is no formal infringement decisions in the cases.

⁴⁴³ *Texas Instruments/Qualcomm* (Case AT.39247).

⁴⁴⁴ *Rambus* (Case COMP/38.636) Decision (n 389) [3]; *Rambus* (Case COMP/38.636) Memo (n 388) 1; *Rambus* (Case COMP/38.636) Decision (n 389) [5]-[6]: The proceedings were initiated upon a joint complaint lodged by Infineon Technologies AG and Hynix Semiconductor Inc. Later, Infineon Technologies withdrew its complaint after settling with Rambus and Cray Inc., Hynix Semiconductor Inc., IBM, Micron Technology, Inc. and Samsung Electronics Corp. were admitted to the proceedings as interested parties. (see *Rambus* (Case COMP/38.636) Report of the Hearing Officer [2009]); *Rambus* (Case COMP/38.636) Memo/07/330 [2007]: The Commission first sent a Statement of Objections to inform Rambus formally about the objections raised against it and preliminarily concluded that charging reasonable and non-discriminatory remedies would be an appropriate remedy.

SEP-based injunctions despite a FRAND commitment constitutes an abuse of dominance.⁴⁴⁵ In the same vein, in the landmark *Huawei v ZTE* ruling⁴⁴⁶ the CJEU answered the Landgericht Düsseldorf's (Germany) questions related to the issue of whether a SEP owner abuses its dominance by initiating a patent infringement action and particularly by seeking a prohibitory injunction.⁴⁴⁷

3.1.3. LINK BETWEEN SEP LICENSING ISSUES AND IPR POLICY

It is worth reiterating that SSOs require patent owners to disclose their patents that may be relevant to the standard under consideration in a timely manner and license their SEPs either royalty-free or on FRAND terms.⁴⁴⁸ Annex 2 includes part of the ETSI IPR policy rules which can be considered as aiming to level the playing field in SEP licensing negotiations.⁴⁴⁹

As mentioned in Chapter II, despite IPR policies it is not possible to eliminate SEP-related licensing issues completely, mainly due to the ever-changing dynamics of standardisation. There is a link between these issues and IPR policies.⁴⁵⁰ For instance, the unclear FRAND concept prescribed in IPR policies contributes to SEP licensing issues. The opinion of the AG⁴⁵¹ Wathelet in *Huawei v ZTE* also supports this view:

[T]he matters at issue in the dispute before the referring court, which in my view, stem largely from lack of clarity as to what meant by 'FRAND terms' and as to the requisite content of such terms (...)

⁴⁴⁵ *Samsung - Enforcement of UMTS standard essential patents* (Case AT.39939) Commitments Decision [2014] [2]-[3]; *Samsung - Enforcement of UMTS standard essential patents* (Case AT.39939) Report of the Hearing Officer [2014]: Apple, HTC Corporation, Nokia GmbH and Google were admitted to the proceedings as interested parties; *Motorola Enforcement of GPRS Standard Essential Patents* (Case AT.39985) Decision (n 399) [1].

⁴⁴⁶ Case C-170/13 [2015] ECLI:EU:C:2015:477 All ER (D) 237 (Jul).

⁴⁴⁷ Case C-170/13 *Huawei v ZTE* [2014] ECLI:EU:C:2014:2391, Opinion of AG Wathelet, [7]: 'The conduct of SEP-holders ... has given rise to plethora of actions before the courts of several Member States and third countries. These various actions, based not only on competition law but also on civil law ...'

⁴⁴⁸ *Samsung - Enforcement of UMTS standard essential patents* (Case AT.39939) Decision (n 393) [31]; *Samsung - Enforcement of UMTS standard essential patents* (Case AT.39939) Decision (n 393) [30]: 'The ETSI IPR Policy was incorporated ... in order to allow Technical Committees ... to move forward with decisions on standards without spending excessive time on IPR issues and related commercial considerations.'

⁴⁴⁹ Even though different SSOs have different IPR policies, the ETSI IPR policy was chosen as a representative of the SSOs' rules given that it is (i) an official European standardisation organisation, (ii) one of the most prominent and most influential SSOs in the ICT sector in the world and (iii) most of the SEPs subject to the cases discussed in this work are related to its standards. Although the IEEE IPR policy could have been a viable alternative, the ETSI IPR policy was preferred given the ongoing debates about the IEEE IPR policy since its revision in 2015.

⁴⁵⁰ The *Unwired Planet v Huawei* judgment of the Supreme Court highlights the importance of the IPR policy as it is the key factor affecting the Court's assessments as to jurisdiction, availability/legality of SEP-based injunctions and the nature of the non-discrimination limb of FRAND (see *Unwired Planet v Huawei* (n 441) [58], [59]-[62], [113]-[118], [124]).

⁴⁵¹ TFEU Article 252 (2): 'It shall be the duty of the Advocate-General, acting with complete impartiality and independence, to make, in open court, reasoned submissions on cases which, in accordance with the Statute of the Court of Justice of the European Union, require his involvement.'; The AGs' opinions are not binding on the CJEU.

[I]t seems clear to me that the risk of the parties concerned being unwilling to negotiate or of the negotiations breaking down could, at least in part, be avoided or mitigated if standardisation bodies were to establish minimum conditions or framework of “rules of good conduct” for the negotiation of FRAND licensing terms.⁴⁵²

The Commission also takes the view that non-discrimination, openness and transparency are the key concepts for effective standardisation to ensure competition on merit and have stated that ‘[s]tandardisation bodies have a responsibility to design clear rules respecting these principles and hence reduce the risk of competition problems ...’⁴⁵³

Below, the CJEU’s preliminary ruling and the Commission’s decisions discussing the relationship between IPR policy and SEP licensing (e.g. SEP disclosure duty and breach of a FRAND commitment) are analysed.

3.1.3.1. ETSI Interim IPR Policy

With this decision, the Commission confirmed that ETSI’s IPR policy adopted in 1994, which has been mostly preserved, complies with EU competition rules.

Rather than the rules adopted subsequently, the important aspect of this decision is the fact that initially, ETSI wanted to adopt a licensing-by-default obligation.⁴⁵⁴ Licensing-by-default is essentially a blanket FRAND commitment with an opt-out option within six months of the decision to include the draft standard in the work programme.⁴⁵⁵ This blanket commitment is further encumbered by the following obligations: (i) in principle, the licence would be for monetary consideration; (ii) the SEP owner would disclose the maximum royalty rate to the Director of ETSI; and (iii) the licence would be non-exclusive licence covering a specific area.⁴⁵⁶ The Computer and Business Equipment Manufacturers Association filed a complaint against the licensing-by-default obligation, alleging that this is a compulsory licensing scheme which infringes Article 85 and Article 86 of the EC Treaty (subsequently known as Article 101 and Article 102).⁴⁵⁷ However, the Commission did not

⁴⁵² *Huawei v ZTE*, Opinion of AG Wathelet (n 447) [9], [11].

⁴⁵³ *Rambus* (Case COMP/38.636) Memo/09/273 [2009], 2; *Rambus* (Case COMP/38.636) Memo (n 422) 3.

⁴⁵⁴ ETSI Interim IPR Policy (n 36) [6].

⁴⁵⁵ *ibid.*

⁴⁵⁶ *ibid.*

⁴⁵⁷ *ibid.*

make a decision on this point as ETSI had abandoned this obligation, and subsequently the complaint had been withdrawn.⁴⁵⁸

It is worth mentioning the definition of the relevant market since this is one of the rare Commission decisions solely focusing on the compatibility of IPR policies with competition law. Concerning the relevant product market, the Commission identified the market for telecommunications standards (i.e. the telecommunications equipment market) and the downstream markets which use the standards (i.e. the services markets) based on the fact that ETSI was engaged in technical pre-standardisation and standardisation activities in telecommunications and related areas.⁴⁵⁹ The relevant geographic market was defined as, at least, the entire EEA as ETSI's activities were at the European level: although its standards may be adopted outside the EEA.⁴⁶⁰

3.1.3.2. Sun/ETSI

This is another instance where the Commission interfered with an IPR policy, but this time indirectly. In this *ex officio* case, the Commission was concerned that the late disclosure of potential SEPs by Sun, and that Sun's relevant patents might not be essential to the relevant standard (i.e. GSM 03.19), might infringe the competition rules, specifically by way of erecting an artificial barrier to entry in the GSM smart cards market.⁴⁶¹ Upon the Commission's intervention, Sun's SEPs were excluded from the scope of the standard.⁴⁶²

Although the Commission stated that it is not its role to interfere with the standardisation process, it pointed out that there may be exceptional cases where the late disclosure of potential SEPs could erect an artificial barrier to entry as a consequence of precluding alternative technologies from the market.⁴⁶³ Therefore, it encouraged SSOs to review

⁴⁵⁸ *ibid.*

⁴⁵⁹ *ibid.*

⁴⁶⁰ *ibid.*; Zingales and Kanevskaia, 'IEEE-SA patent policy update under the lens of EU competition law' (n 301) 201: They stated that the Commission was particularly concerned that it would be unfeasible for SEP owners to identify their potential SEPs and notify ETSI that they intend to withdraw their licences before knowing the content of standards precisely; Eric L Stasik, 'The Role of the European Commission in the Development of the ETSI IPR Policy and the Nature of FRAND in Standardisation' in Ashish Bharadwaj et al (eds), *Multi-dimensional Approaches Towards New Technology* (Springer 2018), 78-79: Stasik stated that ETSI resisted the attempts to define FRAND since the backlash against the licensing-by-default obligation.

⁴⁶¹ Written Question E-0553/03 by Joan Vallvé (ELDR) to the Commission. Breach of EC's competition rules (2004) <<https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:92003E000553&from=ES>> accessed 27 March 2022.

⁴⁶² Ruben Schellingerhout, 'Standard-setting from a competition law perspective' (2011) <https://ec.europa.eu/competition/publications/cpn/2011_1_1_en.pdf> accessed 30 March 2021, 4.

⁴⁶³ Written Question E-0553/03 by Joan Vallvé (n 461).

their internal rules to eliminate such anticompetitive situations.⁴⁶⁴ ETSI reviewed the implementation of its IPR policy, and strengthened the requirement for early disclosure of potential SEPs to minimise the risk of patent ambush.⁴⁶⁵

3.1.3.3. Rambus

In *Rambus*, where non-disclosure of potential SEPs and subsequent requests for allegedly abusive royalties gave rise to the Commission's proceedings, the relationship between IPR policies and anticompetitive conduct was discussed in detail.⁴⁶⁶ The Commission determined the general function of IPR policies as preventing/minimising anticompetitive outcomes and highlighted the underlying need for good faith.⁴⁶⁷ More specifically it explained the aims of IPR policies by stating that:

[T]he policy was aimed at preventing one member company from secretly capturing the standard by not disclosing to JEDEC that technologies being included were covered by the member's granted patent or pending patent application and at preventing the manipulation of the standard-setting process by filing patent applications on technologies discussed for inclusion by JEDEC and finally, at ensuring that licences for technologies protected by patent rights included in the standard are offered to JEDEC members on reasonable terms.⁴⁶⁸

The Commission also considered how JEDEC and its members understood its IPR policy and reached the following conclusions:

- i. JEDEC did not consider a standard which involves a SEP unless all the technical information about this potential SEP was disclosed;
- ii. All the members were expected to disclose any potential SEPs (including patent applications) that they are aware of;
- iii. JEDEC took necessary steps to ensure that its members knew about these disclosure rules;
- iv. JEDEC and its members relied on compliance with the IPR policy whilst developing standards.⁴⁶⁹

⁴⁶⁴ Written Question E-0553/03 by Joan Vallvé (n 461).

⁴⁶⁵ Written Question E-0553/03 by Joan Vallvé (n 461); Schellingerhout, 'Standard-setting from a competition law perspective' (n 462) 4; Zingales and Kanevskaia, 'IEEE-SA patent policy update under the lens of EU competition law' (n 301) 203.

⁴⁶⁶ *Rambus* (Case COMP/38.636) Decision (n 389) [34]-[39].

⁴⁶⁷ *ibid* [34].

⁴⁶⁸ *ibid* [38].

⁴⁶⁹ *ibid* [37].

Based on this IPR policy understanding, the Commission concluded that, during the period when Rambus was a member of JEDEC, it knew about the disclosure obligation, members' expectations and the fact that the standards would not be adopted unless all technical information about the potential SEPs was disclosed.⁴⁷⁰ The Commission also stated that Rambus may have deliberately used the information gained by participating the standardisation activities in JEDEC to amend its pending patent application to capture the standards and tried to take advantage of the system by not disclosing its potential SEPs.⁴⁷¹

The Commission made it clear that an IPR policy breach is not a precondition of finding abuse of dominance; the focus of the assessment was whether a non-disclosure distorted the standardisation process, regardless of whether this also amounted to an IPR policy breach.⁴⁷²

Even though in this case breach of a FRAND undertaking was not an issue, while assessing the commitments proposed by Rambus and the comments filed against those, the Commission indicated some situations where a SEP holder can justify offering lower royalties to one undertaking which could affect the non-discriminatory assessment significantly. In this context, the Commission referred to the following scenarios where offering different royalties may be justified: (i) making lump sum royalty payments rather than paying royalties per unit; and (ii) signing a licensing agreement after settling a patent litigation.⁴⁷³

3.1.3.4. Texas Instrument/Qualcomm

As mentioned above, Qualcomm's allegedly non-FRAND licensing practices and terms were at the heart of this case, so the Commission referred to the link between finding abuse of dominance and breach of FRAND commitments when it first initiated proceedings.⁴⁷⁴ It also stated that:

The complaints are based on their understanding that the economic principle underlying FRAND commitments is that essential patent holders should not be

⁴⁷⁰ *ibid* [35]-[37], [41].

⁴⁷¹ *ibid* [40]; This decision is made under Article 9(1) of Regulation 1/2003, so there is no formal infringement decision. Instead, the Commission decided to make the commitments proposed by Rambus binding. Despite proposing commitments to relieve the Commission's concerns, Rambus did not agree with the Commission's preliminary assessment and denied all the allegations (see *Rambus* (Case COMP/38.636) Commitments Decision [2009] and *Rambus* (Case COMP/38.636) Final Commitments [2009]).

⁴⁷² *Rambus* (Case COMP/38.636) Decision (n 389) [39]: The Commission considered that Rambus may have breached the JEDEC's IPR policy.

⁴⁷³ *Rambus* (Case COMP/38.636) Rejection Decision [2010] [64]-[66].

⁴⁷⁴ *Texas Instruments/Qualcomm* (Case AT.39247) Memo (n 420).

able to exploit the extra power they have gained as a result of having technology based on their patent incorporated in the standard.⁴⁷⁵

The proceedings were closed before the Commission reached formal conclusions, as the complainants were withdrawn (or the complainants indicated their intention to withdraw).⁴⁷⁶

3.1.3.5. Nokia/Bosch + ICom

This case relates to ICom's⁴⁷⁷ public declaration that it would take over Bosch's FRAND commitments made for the SEPs that it acquired from Bosch and which read onto the GSM and UMTS standards. After pointing out the relationship between the unrestricted access to SEPs and unlocking the procompetitive effects of standardisation, the Commission highlighted the importance of FRAND commitments passing to the subsequent owners of SEPs.⁴⁷⁸

3.1.3.6. Motorola GPRS

As explained in depth above, this case focuses on the relationship between a FRAND commitment, seeking and enforcing injunctions, and Article 102, as it mainly dealt with Motorola's SEP-based injunction granted and enforced against Apple's devices despite Motorola's FRAND commitment. Here, again, the Commission stated that exercising patent rights in exceptional circumstances and without any objective justification may constitute abuse of dominance.⁴⁷⁹ The standard setting context for the GPRS standard and Motorola's FRAND commitment were considered exceptional circumstances.⁴⁸⁰ In terms of objective justification, the Commission considered Motorola's arguments in detail after stating that mere ownership of an IPR right will not justify seeking and enforcing a SEP-based injunction against a willing licensee.⁴⁸¹ The analysis regarding two of those

⁴⁷⁵ *Texas Instruments/Qualcomm (Case AT.39247)* Memo (n 420), 1.

⁴⁷⁶ *Texas Instruments/Qualcomm (Case AT.39247)* Memo/09/516 [2009].

⁴⁷⁷ ICom is a NPA which does not produce any product or service implementing its patented technologies - its business model relies on monetising its patents through licensing.

⁴⁷⁸ *Nokia/Bosch (Case no 39615)* Memo/09/549 [2009].

⁴⁷⁹ *Motorola Enforcement of GPRS Standard Essential Patents (Case AT.39985)* Decision (n 399) [278].

⁴⁸⁰ *ibid* [281].

⁴⁸¹ *ibid* [421]-[491]; Joaquín Almunia (Vice President of the European Commission responsible for Competition Policy 2009-2014), 'Intellectual property and competition policy' (Speech 2013) <https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_13_1042> accessed 31 March 2021: 'To repeat and to put it very simply, I believe that injunctions should not be available when there is a willing licensee. Ideally, this principle should be implemented by the standard-setting organisations themselves. But since that is not happening, I am willing to provide clarity to the market through competition enforcement.'

arguments is worth mentioning as it focuses on the relationship between IPR policy, FRAND commitment, SEP-based injunction and abuse of dominance:

- i. The dominant undertaking needs to take responsibility for its conduct and cannot avoid liability on the ground that a court granted the injunction and/or allowed its enforcement.
- ii. The fact that the relevant IPR policy does not limit (i.e. waive) the SEP owners' right to seek injunctive relief is irrelevant in terms of the application of Article 102.⁴⁸²

As a first SEP-related infringement decision pursuant to Article 7(1) of Regulation 1/2003, *Motorola GPRS* includes a detailed analysis of the ETSI IPR policy by highlighting its aim to balance the public benefits of standardisation and SEP owners' rights.⁴⁸³ The Commission determined the timely disclosure of potential SEPs and giving a FRAND commitment as the main obligations of ETSI members pursuant to its IPR policy.⁴⁸⁴ The fact that ETSI does not adopt a standard including a proprietary technology for which the patent owner does not give an irrevocable FRAND commitment was also referred to point out the importance of the commitment.⁴⁸⁵ The Commission also concluded that a FRAND commitment means that the SEP owner will monetise its SEPs through licensing rather than excluding implementers of the standard from the market.⁴⁸⁶

The decision includes a detailed analysis of the willing licensee concept and the Commission particularly discussed why Apple's conduct could not be seen as an indication of its unwillingness to enter into a FRAND license.

First, the Commission determined the date from which Apple was deemed to be a willing licensee considering its licensing offers made in the course of the injunction proceedings

⁴⁸² *Motorola Enforcement of GPRS Standard Essential Patents (Case AT.39985)* Decision (n 399) [465]-[474].

⁴⁸³ *ibid* [57]; *ibid* [557]-[558], [561]: Motorola was found to infringe Article 102 and was required to bring the infringement to an end immediately. However, no fine was imposed on Motorola as (i) there was no Union case law discussing the issue of whether requesting an injunction based on a FRAND-encumbered SEP constitutes an abuse of dominance and (ii) there is no convergence in the approaches of national courts on this issue; *Motorola Enforcement of GPRS Standard Essential Patents (Case AT.39985)* IP/14/489 Press Release [2014], citing Joaquín Almunia: 'Our decision on Motorola, together with today's decision to accept Samsung's commitments, provides legal clarity on the circumstances in which injunctions to enforce standard essential patents can be anti-competitive.'

⁴⁸⁴ *Motorola Enforcement of GPRS Standard Essential Patents (Case AT.39985)* Decision (n 399) [58].

⁴⁸⁵ *ibid* [292].

⁴⁸⁶ *ibid* [294].

and concluded that Apple had been a willing licensee since its second licensing offer.⁴⁸⁷ There are four main reasons why the Commission considered Apple to be willing to enter into a licence with Motorola for its SEP on FRAND terms and conditions starting from this offer: (i) Apple allowed Motorola to set the royalties provided that they were FRAND and did not breach Article 102; (ii) the royalty rates could be reviewed by a competent court;⁴⁸⁸ (iii) Apple defined the scope of Licensed Products in a way to cover all of the products infringing the SEPs; and (iv) Motorola could obtain damages for unauthorised use of its SEPs by Apple.⁴⁸⁹

Second, the Commission evaluated Motorola's claims as to the unwillingness of Apple and stated that the following were not indications of Apple's unwillingness:

- i. Apple's initial refusal to agree not to challenge the validity and infringement of Motorola's SEPs in Germany;
- ii. Apple's insistence on being able to argue non-infringement of Motorola's SEPs by its future products technically or on the ground of patent exhaustion;⁴⁹⁰
- iii. Apple's conduct in the rate-setting proceedings and intention to raise non-infringement defences in these proceedings, particularly given that Apple could not argue the invalidity or non-infringement of the SEPs that are covered by the licensing offer and subsequently by the Settlement Agreement except for the Cudak GPRS SEP;
- iv. Apple's initial refusal to acknowledge all the past infringement of SEPs covered by the Settlement Agreement and Motorola's damages claims;⁴⁹¹
- v. Apple's refusal to grant reciprocity for its own SEPs relevant to the same standards particularly given that, even though the ETSI IPR policy stipulated that a FRAND commitment may be made subject to the condition that potential licensees will reciprocate, there is no requirement that this should be through a cross-license.⁴⁹²

⁴⁸⁷ *ibid* [121]-[145], [307].

⁴⁸⁸ *Motorola Enforcement of GPRS Standard Essential Patents (Case AT.39985) Memo/13/403 [2013]*: '[T]he Commission is of the preliminary view that Apple's willingness to enter into a FRAND licence manifested itself in particular by its acceptance to be bound by a German court's determination of a FRAND royalty rate.'

⁴⁸⁹ *Motorola Enforcement of GPRS Standard Essential Patents (Case AT.39985) Decision (n 399) [125], [303]-[306]*.

⁴⁹⁰ *ibid* [136], [155]: For instance, in the injunction proceedings, Apple argued that the iPhone 4S does not infringe Motorola's SEP as it sourced the chipset implementing the SEP from Qualcomm, which had a licence for this SEP.

⁴⁹¹ *ibid* [127]: 'Apple simply allowed Motorola to claim above-FRAND damages but did not include an explicit acknowledgement of Motorola's claims ... for past damage to the extent they went beyond FRAND royalties.'

⁴⁹² *ibid* [439], [442], [444]-[445], [447], [449], [451], [454], [456]-[457].

The Commission took the view that *Motorola GPRS* created a safe harbour from injunctions for licensees that demonstrated their willingness to enter into a licensing agreement on FRAND terms by agreeing that an independent third party (i.e. court or arbitrator(s)) decides on the FRAND rates.⁴⁹³

The Commission clarified that ETSI does not check the validity and essentiality of declared potential SEPs.⁴⁹⁴ Another point to which the Commission referred is that ETSI is not involved in licensing negotiations for SEPs (or any other SEP-related commercial issues),⁴⁹⁵ but it encourages its members to engage in impartial and honest licensing negotiations and attempt to resolve any disputes related to the IPR policy amicably.⁴⁹⁶ The Commission acknowledged the significance of FRAND commitment as a tool to prevent SEP owners from engaging in anticompetitive conduct once the standard is finalised.⁴⁹⁷

3.1.3.7. Samsung

The injunctions that Samsung sought against Apple by relying on its SEPs in some Member States despite its FRAND commitment to the relevant ETSI standard gave rise to these

⁴⁹³ *Samsung - Enforcement of UMTS standard essential patents* (Case AT.39939) Memo/14/322 [2014], 2; Alexander Italianer (Director-General for Competition, European Commission 2010-2015), 'Shaken, not stirred. Competition Law Enforcement and Standard Essential Patents' (Speech 2015) <https://ec.europa.eu/competition/speeches/text/sp2015_03_en.pdf> accessed 3 April 2021: They said that a safe harbour created by *Motorola GPRS* - a willing licensee is safe from SEP-based injunctions. Italianer added that the willing licensee assessment should be made on a case-by-case basis. For instance, a licensee can demonstrate a willingness by allowing courts to settle FRAND disputes.

⁴⁹⁴ *Motorola Enforcement of GPRS Standard Essential Patents* (Case AT.39985) Decision (n 399) [61].

⁴⁹⁵ *ibid* [79]: The Commission clarified that SSOs do not need to check the compatibility of licensing terms with the FRAND commitment to avoid a liability arising from Article 101 according to the Horizontal Guidelines.

⁴⁹⁶ *ibid* [70]-[73].

⁴⁹⁷ *ibid* [76]-[78], [289]; Haris Tsilikas, 'Huawei v. ZTE in context - EU competition policy and collaborative standardisation in wireless telecommunications' (2017) 48(2) IIC 151: Tsilikas stated that the Commission relied on 'a new, sui generis form of abuse of dominance, a "refusal to license on FRAND terms"'. It also created a broad safe harbour for willing licensees, without defining the willing licensee concept clearly, which increases the risk of patent hold-out in practice. According to Tsilikas, it seems that the Commission's analysis was heavily influenced by the patent hold-up concern while the efficiency of standardisation was disregarded. Also, they think the Commission favours price-setting by courts and arbitrators as it distrusts bilateral licensing negotiations. However, they believe this approach could increase SEP-related litigation and uncertainty in SEP licensing. Determination of FRAND terms by courts should be the exception not the rule as such interferences with the market price system would result in inefficiencies. They found it fortunate that the CJEU did not affirm the Commission's approach in *Huawei v ZTE* and summarised some of the main differences as follows: (i) reliance on 'a monopoly leverage theory of harm' (i.e. whether the SEP enforcement might exclude a competitor and eliminate competition in the downstream market), (ii) formulation of willing licensee differently by imposing serious obligations on a potential licensee, (iii) fostering bilateral licensing negotiations rather than FRAND terms determined by courts/arbitrators and (iv) rejecting the broad safe harbour created by *Motorola GPRS*; Robin Jacob, 'Competition Authorities Support Grasshoppers: Competition Law as a Threat to Innovation' (2013) 9 CPI 15: After the release of Memo/13/403 [2013], Jacob criticised the Commission for initiating the *Motorola GPRS* investigation on several grounds, including (i) breach of the right of a party's access to the courts (the European Convention of Human Rights Article 6), (ii) ignorance of the commercial realities of the sector and (iii) unnecessary interference with the national court's businesses.

proceedings.⁴⁹⁸ The Commission clarified that patent owners' right to seek injunctive relief can be considered abusive in the context of Article 102 in exceptional circumstances and in the absence of any objective justification.⁴⁹⁹ Samsung's FRAND commitment for the widely implemented UMTS standard and the expectation Samsung would collect royalties for its SEPs rather than excluding the (potential) licensees by relying on these⁵⁰⁰ were considered exceptional circumstances.⁵⁰¹ The Commission preliminarily concluded that there was no objective justification mainly on the ground that Apple was willing to take a licence on FRAND terms, but it did not offer any explanation as to why Apple was considered to be a willing licensee in this specific case.⁵⁰² However, it stated that the issue of whether a potential licensee is a willing one should be assessed on a case-by-case basis.⁵⁰³ Also, it characterised an undertaking which is willing to accept the FRAND terms set by a court or arbitrators as a willing licensee.⁵⁰⁴

Like Rambus, Samsung proposed commitments to relieve the Commission's concerns without accepting the allegations, and those commitments were made binding on Samsung pursuant to Article 9(1) of Regulation 1/2003.⁵⁰⁵ The commitments, observations filed by third parties against the initial commitments, and the Commission's evaluation provide useful guidance as to some significant SEP-related issues, which are discussed next.

First, the Commission welcomed the fact that Samsung revised its initial commitments to ensure that potential licensees could go to court (instead of arbitration) given the importance of having SEP-related precedents which are, in principle, publicly available

⁴⁹⁸ *Samsung - Enforcement of UMTS standard essential patents (Case AT.39939)* Decision (n 393) [2]-[5]; *Samsung - Enforcement of UMTS standard essential patents (Case AT.39939)* Memo/13/910 [2013], 2: The Commission did not evaluate royalty rates; it only focused on the potential anticompetitive effects of seeking SEP-based injunctions, despite a FRAND commitment, against a willing licensee; In the same vein *Motorola Enforcement of GPRS Standard Essential Patents ((Case AT.39985)* Press Release Memo/13/403 [2013], 2); *Samsung - Enforcement of UMTS standard essential patents (Case AT.39939)* Memo (n 493) 2: 'SEP-based injunctions should be available when there is an unwilling licensee.' (In the same vein *Motorola Enforcement of GPRS Standard Essential Patents (Case AT.39985)* Summary Decision [2014] OJ C344/6).

⁴⁹⁹ *Samsung - Enforcement of UMTS standard essential patents (Case AT.39939)* Decision (n 393) [56].

⁵⁰⁰ *ibid* [62]: The Commission preliminarily concluded that Samsung could exclude Apple from the market and induce Apple to accept disadvantageous licensing terms by seeking injunctions based on its SEPs.

⁵⁰¹ *ibid* [57], [61]; *Samsung - Enforcement of UMTS standard essential patents (Case AT.39939)* Memo (n 498), 3: The Commission clarified that it does not seek to prohibit the right to seek injunctive relief for SEPs altogether; instead, it considers SEP-based injunctive reliefs anticompetitive in exceptional circumstances.

⁵⁰² *Samsung - Enforcement of UMTS standard essential patents (Case AT.39939)* Decision (n 393) [65]-[69].

⁵⁰³ *Samsung - Enforcement of UMTS standard essential patents (Case AT.39939)* Memo (n 493) 2.

⁵⁰⁴ *ibid* 2.

⁵⁰⁵ *Samsung - Enforcement of UMTS standard essential patents (Case AT.39939)* Decision (n 393) [126]; *Samsung - Enforcement of UMTS standard essential patents (Case AT.39939)* Final Commitments [2014].

and the public interest in invalidating patents that were granted in error.⁵⁰⁶ Samsung also committed to make non-confidential versions of arbitration awards publicly available and the Commission highlighted the importance of this practice for the resolution of future SEP-related disputes, particularly in terms of methods applied to calculate the FRAND rate.⁵⁰⁷

Second, Samsung clarified that the commitments would not alter the burden of proof in actions regarding the validity, infringement and essentiality of the SEPs and parties could ask the court/arbitration tribunal to consider these issues while determining FRAND terms and conditions.⁵⁰⁸ Finally, Samsung assured the Commission that it would not use its SEPs to get a licence for non-SEPs or SEPs that are not essential to the same standards (i.e. not covered by the reciprocity rules of ETSI) through cross-licensing.⁵⁰⁹

Then, the Commission Vice President in charge of competition policy Joaquín Almunia considered the *Samsung* and *Motorola GPRS* cases as a helpful guidance as to how SEP-related disputes should be resolved in line with the EU competition rules and encouraged the industry to consider establishing similar dispute resolution mechanisms.⁵¹⁰

3.1.3.8. *Huawei v ZTE* preliminary ruling

This matter came to the referring court, Landgericht Düsseldorf (Germany), as a result of failed licensing negotiations between Huawei and ZTE. Huawei had started an infringement action and sought an injunction against ZTE based on its SEPs related to ETSI's 4G/LTE standard. The national court referred some questions to the CJEU pursuant

⁵⁰⁶ *Samsung - Enforcement of UMTS standard essential patents* (Case AT.39939) Commitments Decision [2014] [83], [98], [106].

⁵⁰⁷ *Samsung - Enforcement of UMTS standard essential patents* (Case AT.39939) Commitments Decision [2014] [90], [103], [111].

⁵⁰⁸ *Samsung - Enforcement of UMTS standard essential patents* (Case AT.39939) Commitments Decision [2014] [85], [86], [99], [107].

⁵⁰⁹ *Samsung - Enforcement of UMTS standard essential patents* (Case AT.39939) Final Commitments [2014], 14-15; *Samsung - Enforcement of UMTS standard essential patents* (Case AT.39939) Commitments Decision [2014] [89], [102], [110].

⁵¹⁰ *Samsung - Enforcement of UMTS standard essential patents* (Case AT.39939) Press Release IP/14/490 [2014], 1, citing Joaquín Almunia; Alexander Italianer (Director-General for Competition, European 2010-2015), 'Shaken, not stirred. Competition Law Enforcement and Standard Essential Patents' (Speech 2015) (n 493): Almunia stated that while *Motorola GPRS* provided a safe harbour, *Samsung* illustrated the application of this safe harbour in practice. The following lessons could be drawn from these cases - although patent holders could generally seek injunctions against alleged infringers without infringing Article 102, this could be abusive if there is a FRAND commitment and the alleged infringer is a willing licensee.

to TFEU Article 267, particularly considering the perceived contradictions between German caselaw and the Commission's approach to SEP-based injunctions.⁵¹¹

The main issue the CJEU dealt with was whether a SEP owner abuses its dominance by beginning a patent infringement action and particularly by seeking a prohibitory injunction based on its SEP. The dominance assessment was not disputed, so the CJEU only focused on abuse in its preliminary ruling.⁵¹²

The CJEU considered the rules under the ETSI IPR policy provided in Annex 2.⁵¹³ The CJEU also stated that the ETSI does not check the validity and essentiality of potential SEPs when they are declared and pointed out that its IPR policy does not define the concept of *licensing on FRAND terms*.⁵¹⁴

The referring court asked five questions. The fifth question relates to patent infringement-related claims other than prohibitory injunction (i.e. for rendering accounts, recall of products, damages).⁵¹⁵ The CJEU evaluated the first four questions and the recalling products part of the fifth question together (i.e. first part of the analysis) and then moved on to discuss the rest of the fifth question separately (i.e. second part of the analysis).⁵¹⁶ Only the first part of the analysis, which is relevant to this work, is discussed below.

⁵¹¹ The Federal Court of Justice (Germany)'s Orange Book judgment and the Commission's *Samsung* and *Motorola GPRS* decisions were considered; *Huawei v ZTE*, Opinion of AG Wathelet (n 447) [48]-[51]: Wathelet thought that the current case distinguishes from the Orange Book case as in the latter one there was a de facto standard and naturally no FRAND commitment of the patent owner. Considering the Commission's *Samsung* case, they stated that the alleged infringer's mere willingness to negotiate in a highly vague and non-binding fashion is insufficient to limit the SEP holders' right to seek a prohibitory injunction. Thus, the direct application of the case law to the current case would result in either over- or under-protection of the SEP holder and the potential licensees; Pat Tracey and Chloe Dickson, 'The third way: Advocate General's opinion in *Huawei v ZTE*' (2015) 21(3) C.T.L.R. 57, 58: They argued that AG Wathelet sought to suggest the CJEU adopt a middle course between the patentee-friendly approach of the German courts following the Orange Book judgment and the Commission's approach favouring implementers more, given its *Samsung* and *Motorola GPRS* decisions.

⁵¹² *Huawei v ZTE* (n 251) [43]; Case C-170/13 *Huawei v ZTE* [2014] ECLI:EU:C:2014:239, Opinion of AG Wathelet, [57]-[58] (footnotes omitted): '[A]n undertaking owns an SEP does not necessarily mean that it holds a dominant position ... and that it is for national court to determine, on case-by-case basis, whether that is indeed the situation. ... [T]hat finding cannot be based on hypotheses.'

⁵¹³ *ibid* [12]-[19].

⁵¹⁴ *ibid* [20].

⁵¹⁵ *ibid* [39].

⁵¹⁶ *ibid* [74]: The CJEU concluded that an action taken by a SEP holder for seeking rendering of accounts or an award of damages would not breach Article 102 on the ground that they do not directly affect the standard-compliant products manufactured by competitors.

In terms of the first part of the analysis, the CJEU first referred to the caselaw settling that the exercise of IPRs in itself constitutes an abuse of dominance only in exceptional circumstances⁵¹⁷ but also stated that the current case was distinguishable from previous caselaw because (i) the patent was a SEP⁵¹⁸ and (ii) the patent holder gave an irrevocable undertaking to license the SEP on FRAND terms.⁵¹⁹

Before moving to prescribe its solution for the assessment of whether a SEP holder could seek a prohibitive injunction and/or take an action to recall the products allegedly infringing the SEP without infringing Article 102, the CJEU stated that:

However, under Article 102 TFEU, the proprietor of the patent is obliged only to grant a licence on FRAND terms. In the case in the main proceedings, the parties are not in agreement as to what is required by FRAND terms in the circumstance of that case.⁵²⁰

This statement is very significant in terms of IPR policies' effect on SEP-related disputes as it clearly indicates that the main cause of the dispute is the vague FRAND concept. Therefore, the CJEU provided guidance to clarify when a SEP owner can ask for a prohibitory injunction and/or recall infringing products without breaching Article 102.

The guidelines can be summarised as follows:

1. The SEP owner must alert the alleged infringer prior to the proceedings related to the SEP.

⁵¹⁷ *Huawei v ZTE*, Opinion of AG Wathelet (n 447) [60], [65] (footnotes omitted): 'Huawei did not waive its right to bring actions for prohibitory injunctions ... I believe that the commitment given by Huawei ... bears some similarity to a "licence of right". ... where a patent licensee has a licence of right, an injunction may not, in principle, be issued against him.'; Even though the Court did not explicitly comment on the licence of right analogy, it indirectly confirmed that SEP owners do not waive their right to seek injunctive relief by giving a FRAND commitment.

⁵¹⁸ The relevant patent is EP 2 090 050 B1 and the relevant standard is LTE.

⁵¹⁹ *Huawei v ZTE* (n 251) [47]-[49], [51]; *Huawei v ZTE* (n 251) [53]-[54]: The CJEU stated that the FRAND commitment given by Huawei creates legitimate expectations regarding that it will license the SEP on FRAND terms on the part of the third parties, and the subsequent refusal to license may, in principle, constitute an abuse of dominance. The CJEU also highlighted that such abuse might be used as a defence against requests for a prohibitory injunction or recalling products; *Huawei v ZTE*, Opinion of AG Wathelet (n 447) [70]-[71]: Wathelet stated that based on case law, Huawei's conduct of declaring its potential SEP and giving a voluntary FRAND commitment could not be treated as a refusal to license. Huawei's declaration regarding a potential SEP and subsequent FRAND commitment affected standardisation and the content of the standard, which led to a technological dependence between Huawei and potential licensees, which also led to an economic dependence; The Court followed the AG Wathelet's opinion in terms of the partial applicability of case law.

⁵²⁰ *Huawei v ZTE* (n 251) [54].

2. Where the alleged infringer is a willing licensee, the SEP owner must present to the alleged infringer a specific, written FRAND licence offer and, in particular, specify the royalty rate and how this was calculated.
3. The alleged infringer: (i) must respond to this offer diligently, according to recognised commercial practices in the relevant field and in good faith (including submitting a prompt FRAND counteroffer in writing); (ii) must not engage in delaying tactics (i.e. patent hold-out); (iii) where the alleged infringer has been using the SEP and the counteroffer was refused, it must provide an appropriate security for its past use of the SEP.
4. Where the parties cannot agree on licensing terms, they may request determination of the royalty rate by an independent third party. The alleged infringer can challenge the validity, essentiality and/or actual use of the SEP during the ongoing negotiations or reserve the right to do so.⁵²¹

⁵²¹ *ibid* [61]-[71]; *Huawei v ZTE*, Opinion of AG Wathelet (n 447) [93]: They referred to the future use of the SEP while discussing the alleged infringer's responsibility to provide appropriate security; Unlike AG Wathelet, the Court did not refer to the future use of the SEP in the scope of the security the alleged infringer should provide; *Unwired Planet v Huawei* (n 441) [157]: 'The scheme set up by the CJEU ... provides the SEP owner with a route map which, if followed precisely, will ensure it can seek an injunction without risking infringing article 102, and otherwise provides a number of points of reference to assist in assessing the all-important question of whether each of the parties is willing to enter into a license on FRAND terms.'; SEPs Expert Group (n 38) 124-149: They stated that the proposals made to improve SEP licensing negotiations and the resolution of SEP licensing disputes can be implemented by revisiting the guidelines introduced in *Huawei v ZTE*; Pedro Henrique D. Batista and Gustavo Cesar Mazutti, 'Comment on Huawei Technologies (C170/13): standard-essential patents and competition law - how far does the CJEU decision go?' (2016) 47(2)IIC 244: They thought the Court used some vague concepts (e.g. diligently, recognised commercial practices in the relevant field, good faith); Peter Picht, 'The ECJ rules on standard-essential patents: thoughts and issues post-Huawei' (2016) 37(9) 365: Picht stated that the *Huawei v ZTE* ruling relies on the Charter of Fundamental Rights of the European Union [(2012) OJ C326/391] (Charter) and general civil law notions of fairness, good faith and commercial practices rather than competition law. They argued that this is dangerous as it creates the impression that there is a conflict between competition and IP law, and the IP protection, which needs to be more flexible 'as an abstract legal concept', cannot be tailored to foster dynamic efficiency. On the other hand, Picht argued that utilising contract law concepts (e.g. good faith) could be beneficial for EU case law but only if certain issues such as the applicable law in disputes where a FRAND commitment is considered a third-party beneficial contract are clarified. Moreover, they believed in a need to clarify the relationship between the contract law concepts referred to in the ruling and FRAND, as well as the consequences of not acting in good faith and according to recognised commercial practices. Picht also noted that, unlike Article 102, the Charter articles and fairness concept do not depend on dominance, so that they can be applied to any undertaking. However, the Charter articles could only be applied in cases where there is a FRAND commitment. Article 102 (as well as patent law) can be used to prevent the patent hold-up and hold-out even in the absence of such a commitment. According to Picht, one can argue that the *Huawei v ZTE* approach differentiates from the US' *eBay* approach in terms of reliance on FRAND commitment, and they might lead to different outcomes when they are applied to the same scenario. They also proposed that courts should be more flexible if it can be established that an offer is not FRAND despite a party's reasonable and serious attempts, given that it is highly unlikely that parties would have all the relevant information to make a FRAND (counter) offer. Picht also criticised that it is unclear whether *Huawei v ZTE* could also be used in patent damages actions since these can also be used to pressure implementers using the proprietary technology. Finally, they added that SSO-linked arbitration might be a viable alternative to courts, at least to a certain extent, as a more flexible platform suitable for resolving heterogeneous and fact-sensitive SEP disputes; Tsilikas, 'Huawei v. ZTE in context - EU competition policy and collaborative standardisation in wireless telecommunications' (n 441) 174: Tsilikas stated that the ruling indicates that clarification of FRAND by SSOs would be welcome so they could consider introducing good licensing practices as proposed by AG Wathelet; Indranath Gupta et al, 'Evolving *Huawei* Framework: SEPs and Gant of Injunctions' in Ashish Bharadwaj et al (eds), *Multi-dimensional Approaches Towards New Technology* (Springer 2018), 137-148: Gupta pointed out although in practice

3.2. Other Legal Instruments Produced by the Commission

3.2.1. COMMUNICATION: INTELLECTUAL PROPERTY RIGHTS AND STANDARDISATION (1992)

The Communication set out some high-level principles as a foundation for SSOs' internal rules and highlighted that SSOs are free to regulate their internal affairs providing that this is done compatibly with EU law and the EU's international obligations.⁵²² It mostly focused on IPR policies: starting with a reference to their importance for effective standardisation and welcoming the introduction of clear SEP-related rules.⁵²³ The Commission determined that most IPR policies are non-binding and that, in general, participation in standardisation is voluntary.⁵²⁴ It also stated that SSOs should consider the incentive to contribute to standards with state-of-the-art technologies before imposing constraints on SEP owners.⁵²⁵ The Communication favours SEP-free standards wherever possible.⁵²⁶ The Commission also stated that where there is no viable alternative to a proprietary technology for which its owner is reluctant to give a FRAND commitment, the SSO should weigh the competitive disadvantage of abandoning the standard for (potential) licensees vis-à-vis the SEP owner and finalising the standard without including the patented technology (i.e. a less efficient standard).⁵²⁷

The Commission analysed the FRAND commitment and disclosure of SEPs issues separately and made some statements which set the tone of its approach to SEP-related matters.

The Commission stated that an undertaking asserting its patent rights after the standard is set without disclosing it during standardisation, even though it was put on notice by the SSO that its patent is potentially essential to a standard, it would be acting in bad faith.⁵²⁸ It was added that it can be easier to prove such bad faith if it is established that the undertaking was aware of this potential SEP.⁵²⁹ The Commission also encouraged SSOs to penalise late or non-disclosure of potential SEPs.⁵³⁰ The Commission stated that the

exchange of offers, counteroffers and making enquiries about offers are common, the Court did not consider this in its ruling.

⁵²² Commission, 'Intellectual Property Rights and Standardisation' COM(92) 445 final, [1.1.4].

⁵²³ *ibid* [1.1.1], [1.1.2]; The Communication does not use the term, SEP instead uses IPR to capture other IPRs (e.g. copyright) as well, but most of its analysis applies to patents/SEPs than other IPRs.

⁵²⁴ Commission, 'Intellectual Property Rights and Standardisation' (n 522) [6.1.5].

⁵²⁵ *ibid* [6.1.8].

⁵²⁶ *ibid* [4.1.2].

⁵²⁷ *ibid* [5.1.15].

⁵²⁸ *ibid* [4.4.1]; Commission, 'Intellectual Property Rights and Standardisation' (n 522) [4.4.3]: The Commission stated courts might consider the deliberate bad faith of a SEP owner in calculating damages due to patent infringement.

⁵²⁹ Commission, 'Intellectual Property Rights and Standardisation' (n 522) [4.4.2].

⁵³⁰ *ibid* [4.4.2].

onus is on SSOs' members to identify their potential SEPs in a timely manner using their best efforts to ensure the efficiency of standardisation.⁵³¹ It also referred to the difficulties of conducting a search for members with substantial patent portfolios and advised SSOs to give a longer time for potential SEP searches, if necessary.⁵³² In terms of potential SEPs of non-members, the Commission required SSOs to make all reasonable efforts to identify them by conducting searches, publishing information and, if appropriate, by holding public enquiries, and to engage in negotiations with these third parties before incorporating their proprietary technologies into standards.⁵³³

The Commission explicitly stated that SSOs must obtain an irrevocable FRAND commitment from the patent owner at the earliest possible opportunity, before incorporating its technology into a standard.⁵³⁴ Where no FRAND commitment is given, the SSO must look for alternative technologies.⁵³⁵ The Commission did not elaborate on what constitutes fair and reasonable, given their subjective nature, and stated that they should be conceptualised depending on the circumstances of each negotiation.⁵³⁶ The Commission also made the following very brief but important statement as to setting FRAND royalty rates:

If the rightsholder [SEP owner] is to be satisfied that his investment in research and development can be adequately recovered, he would expect the royalty rate to relate in some way to the normal freely-negotiated commercial rate, allowing for the greatly increased market for his technology which standardization will bring.⁵³⁷

The Commission also acknowledged the market power that a SEP will confer on its owner and noted that this should be considered when assessing the fairness and reasonableness of royalty rates.⁵³⁸

Even though the Commission stated that a potential SEP owner has an absolute right to refuse to license its potential SEP, discretion as to whom it will license, and to grant an exclusive licence for a market, it was clarified that the SEP owner is not totally free in

⁵³¹ *ibid* [4.5.1], [6.2.1].

⁵³² *ibid* [4.5.1].

⁵³³ *ibid* [4.6.1], [6.2.1].

⁵³⁴ *ibid* [6.2.1].: '8. Regard agreement to the incorporation of an IPR in a standard as irrevocable unless the exceptional circumstances justify withdrawal of licences once the standard is adopted.'

⁵³⁵ *ibid* [4.3.2], [6.2.1].

⁵³⁶ *ibid* [4.3.3].

⁵³⁷ *ibid*.

⁵³⁸ *ibid* [4.3.6], [4.3.7].

its licensing practices once it gives a FRAND commitment.⁵³⁹ It seems that the Commission approached pre- and post-FRAND commitment periods differently in terms of the SEP owner's freedom to exercise its right; whilst it regarded SEP owners as ordinary IPR owners before the commitment, they are more restricted and arguably more susceptible to antitrust claims post-FRAND commitment. The Commission also mentioned the caselaw providing that a mere refusal to license is not abusive.⁵⁴⁰

The Commission explicitly referred to SEP owners' conduct infringing Article 102 through imposing excessive royalties or any other unfair conditions, particularly where there is no alternative to the proprietary technology.⁵⁴¹ The Commission elaborated on this by stating that excessive pricing could be construed as abusive.⁵⁴² Here, the Commission again mentioned the issue of refusal to license in the context of bilateral relationships between the patent owner and individual licensees and warned that asking excessive royalties could amount to de facto refusal to license.⁵⁴³ It was also stated that the relevant market to establish the dominance of a SEP owner, which is a precondition to apply Article 102, should be the technological solution protected by the SEP.⁵⁴⁴

Besides the FRAND commitment and disclosure of SEPs issues, the Commission commented on a series of ancillary issues that are relevant for the assessment of IPR policies.

It was argued that SEP licences should be available for non-members (of SSOs) as well, and non-members should not be discriminated against significantly in terms of SEP licensing terms.⁵⁴⁵ The Commission also referred to the possibility of SEP cross-licensing and arbitration for resolving licensing disputes.⁵⁴⁶ Although the Commission found the internal arbitration mechanisms of SSOs useful for resolving these disputes, it highlighted that the arbitrator(s)' decisions cannot be regarded as final and binding if the matter requires the application of the EC Treaty's provisions.⁵⁴⁷

⁵³⁹ *ibid* [4.3.5], [4.7.3].

⁵⁴⁰ *ibid* [5.1.10]; *ibid* [5.1.7]: However, the Commission also acknowledged that when the Communication was published, there was no SEP-related jurisprudence at the Community level.

⁵⁴¹ *ibid* [5.1.6]-[5.1.7], [5.1.13]; Communication from the Commission Intellectual Property Rights and Standardisation [1992] COM(92) 445 final, [5.1.4]: The Commission also mentioned the possibility of applying Article 101 to the use of IPRs.

⁵⁴² Commission, 'Intellectual Property Rights and Standardisation' (n 522) [5.1.14].

⁵⁴³ *ibid*; Where there is a de facto refusal to license, instead of explicitly refusing to license, the dominant undertaking only agrees to license (or provide) its property to the other party on conditions which would not be reasonable for that party to accept.

⁵⁴⁴ Commission, 'Intellectual Property Rights and Standardisation' (n 522) [5.1.8].

⁵⁴⁵ *ibid* [4.7.1], [6.2.1].

⁵⁴⁶ *ibid* [4.3.4].

⁵⁴⁷ *ibid* [6.3.1].

The Commission acknowledged that certain SEP-related conduct of SSOs and their members can violate EU law.⁵⁴⁸ It warned SSOs that their conduct may infringe Article 101 if, particularly, they fix royalty rates and other trading conditions, facilitate the exchange of commercially sensitive information, or facilitate restrictive practices.⁵⁴⁹ Finally, the Commission indicated that the *European standardisation organisation* status of an SSO which consistently fails to give non-discriminatory access to its standards would be reviewed.⁵⁵⁰

3.2.2. WHITE PAPER: MODERNISING ICT STANDARDISATION IN THE EU - THE WAY FORWARD (2009)

The main purpose of the White Paper was to help European ICT standardisation policy to respond the needs of industry and society.⁵⁵¹ In the context of modernising ICT standardisation, IPRs, and more specifically licensing of SEPs on FRAND terms, were considered within the attributes that should be reflected in standards.⁵⁵²

First, the Commission stated that standard-setting should not restrict competition with reference to the Horizontal Guidelines.⁵⁵³ It clarified that SSOs do not need to implement identical IPR policies providing that these policies ensure the consideration of potential SEPs properly during standardisation and comply with competition law. It was also stated that IPR policies should be stable, predictable, transparent, and effective while enabling competition and facilitating innovation.⁵⁵⁴ In terms of the effectiveness of IPR policies, the Commission highlighted the importance of openness and accessibility of the standardisation process as well as the availability of standards to anyone interested.⁵⁵⁵ It also pointed out that SSOs should ensure the effectiveness of their SEP disclosure procedures.

Second, while commenting on the significance of FRAND principles for SEP licensing, the Commission encouraged SSOs to improve the licensing framework by reducing complexity

⁵⁴⁸ *ibid* [1.1.3].

⁵⁴⁹ *ibid* [5.1.2]-[5.1.3]: It was also noted that SSOs can benefit from Article 101(3).

⁵⁵⁰ *ibid* [6.3.3]; For more information about European standardisation organisations see (n 383).

⁵⁵¹ Commission, 'Modernising ICT Standardisation in the EU - The Way Forward' (White Paper) COM(2009) 324 final, 3.

⁵⁵² *ibid* 6.

⁵⁵³ *ibid* 8.

⁵⁵⁴ *ibid*.

⁵⁵⁵ *ibid*.

and increasing predictability.⁵⁵⁶ For this purpose, it proposed the introduction of *ex ante* declaration of most restrictive licensing terms (perhaps including maximum royalty rates) to enhance the predictability and transparency of the licensing framework.⁵⁵⁷ The Commission also considered royalty-free licensing as an option for increasing interoperability.⁵⁵⁸

Finally, given different business models (e.g. open source) which may require terms different than FRAND terms for use of proprietary technologies, the Commission advocated keeping IPR governance in standardisation as flexible as possible.⁵⁵⁹

3.2.3. THE HORIZONTAL GUIDELINES (2011)

The Horizontal Guidelines set out the principles for the assessment of horizontal cooperation agreements under Article 101.⁵⁶⁰ They include a dedicated section on standardisation agreements and provide useful insights about the Commission's approach to standardisation even though this mostly deals with the compatibility of the SSOs' practices and rules with Article 101.⁵⁶¹ Particularly, the parts dealing with market definition in cases involving standards, potential pro- and anticompetitive effects of standardisation, disclosure obligation, and FRAND commitment are relevant to assess the compliance of members' conduct with competition law.⁵⁶²

The Guidelines indicate that standards can affect the definition of the relevant market when they involve IPRs which are marketed separately from the standard-compliant products.⁵⁶³ They also refer to the procompetitive effects of standardisation in detail in the context of Article 101(1) and (3).⁵⁶⁴

⁵⁵⁶ *ibid.*

⁵⁵⁷ *ibid* 8-9; In the same vein Commission, 'A Digital Agenda for Europe' COM(2010) 245 final, 16.

⁵⁵⁸ Commission, 'Modernising ICT Standardisation in the EU - The Way Forward' (White Paper) (n 551) 9.

⁵⁵⁹ *ibid.*

⁵⁶⁰ The Horizontal Guidelines [1]; At the time of writing, there is a published draft of Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal cooperation agreements <https://content.mlex.com/Attachments/2022-03-01_1KD2S24I65B4X7S8/draft_revised_horizontal_guidelines_2022.pdf> accessed 10 June 2022.

⁵⁶¹ The Horizontal Guidelines [5], [38]; The Horizontal Guidelines created a *safe harbour* for standardisation agreements - accordingly, standardisation agreements that facilitate unrestricted participation to standardisation and effective access to standards on FRAND terms as well as involve transparent procedures and no obligation to comply with standards would fall outside Article 101(1).

⁵⁶² Indeed, the Commission referred to the Horizontal Guidelines in some of the abuse of dominance cases discussed in this chapter (e.g. *Samsung*).

⁵⁶³ The Horizontal Guidelines [261].

⁵⁶⁴ *ibid* [263], [308].

The part where potential anticompetitive effects of standardisation are analysed is particularly relevant to this thesis. The analysis starts by pointing out that standardisation can cause anticompetitive concerns and may limit technical development and innovation as well as prevent undertakings' effective access to standards.⁵⁶⁵ In terms of limiting technical development and innovation, the Guidelines refer to the competition between alternative technologies before the standard is finalised and effects of incorporating one of these into it (i.e. barriers to entry, exclusion).⁵⁶⁶ The Guidelines also consider the inclusion of a proprietary technology into a standard where there is an alternative non-proprietary one and forcing the industry pay more royalties in the context of Article 101(3). It is stated that this may be seen as going beyond what is necessary to achieve any identified efficiency gains as a result of which the standardisation agreement could not benefit from the individual exemption.⁵⁶⁷

The Guidelines consider IPRs and IPR policies in the context of effective access to standards and refer to the risk of patent hold-up.⁵⁶⁸ They also make it clear that there is no presumption of market power just because an undertaking has or enforces a SEP.⁵⁶⁹ After highlighting that SSOs are free to set their rules and procedures provided that they are not violating the competition rules, the Guidelines discuss the importance of having a clear and balanced IPR policy, more particularly the FRAND commitment and the disclosure obligation, to ensure effective access to standards on FRAND terms.⁵⁷⁰

In terms of the disclosure obligation, the Guidelines explicitly require SSOs to have a good-faith disclosure obligation.⁵⁷¹ They acknowledge that there are different disclosure models and SSOs are free to adopt whichever they prefer as long as the model guarantees effective access to standards.⁵⁷² Although there is no detailed analysis as to the specific features of a disclosure obligation ensuring effective access to standards, the Guidelines state that such an obligation could be an ongoing one during standardisation and based

⁵⁶⁵ *ibid* [264].

⁵⁶⁶ *ibid* [266].

⁵⁶⁷ *ibid* [317].

⁵⁶⁸ *ibid* [269]; *ibid* [267]: The Guidelines divide undertakings into three main groups in terms of their positions towards SEPs, particularly considering their reliance on SEP royalties as a source of income - upstream-only companies whose only source of income is royalties. These downstream-only companies which pay royalties and vertically integrated companies for which royalties constitute both expense and income.

⁵⁶⁹ *ibid* [269]; The Horizontal Guidelines use the term *IPR*, but since mostly patents are incorporated into standards, *SEP* and *patent* are used here instead.

⁵⁷⁰ *ibid* [279], [284].

⁵⁷¹ *ibid* [286].

⁵⁷² *ibid* [298].

on reasonable endeavours to identify potential SEPs.⁵⁷³ The Guidelines refer to the correlation between disclosure of potential SEPs and members being able to make informed decisions considering alternative technologies, the willingness of the potential SEP owner to license it, and the final cost of the standard.⁵⁷⁴ The Guidelines explicitly state that *ex ante* disclosure of most restrictive licensing terms will, in principle, not infringe Article 101.⁵⁷⁵

Irrevocable FRAND commitments given in writing prior to the adoption of a standard are an essential element of IPR policies to ensure effective access to standards according to the Guidelines.⁵⁷⁶ The Guidelines further state that IPR policies should allow potential SEP owners to exclude their patented technologies from the standard-setting process at an early stage of standardisation and that FRAND commitments will pass to the subsequent owners of encumbered SEPs.⁵⁷⁷ The Guidelines also mention the fact that FRAND commitments can facilitate the implementation of standards by preventing SEP owners from refusing to license or requesting unfair, unreasonable (i.e. excessive), or discriminatory royalties.⁵⁷⁸ They also clarify that SSOs do not need to check the compatibility of licensing terms with the FRAND commitment to avoid liability arising under Article 101.⁵⁷⁹ Although there is no detailed explanation as to the appropriate method(s) for calculating FRAND royalty rates, it is stated that they need to reflect the value of patents and, where there is a dispute on the level of royalties, the parties should be able to submit the issue to competent courts.⁵⁸⁰

3.2.4. COMMUNICATION: ICT STANDARDISATION PRIORITIES FOR THE DIGITAL SINGLE MARKET (2016)

The Commission referred to SEPs in the context of *access rights to standards* and highlighted that ICT standardisation requires an IPR policy based on FRAND licensing,

⁵⁷³ *ibid* [286]: According to the Guidelines, it is sufficient if a potential SEP owner declares that it is likely to have a SEP without identifying the underlying patent.

⁵⁷⁴ *ibid* [268]; *ibid* [327]: The Guidelines refer to a hypothetical example of standard-setting where (i) most of the technologies that may be incorporated into a standard are proprietary, (ii) the SSO neither requires nor encourages disclosure of potential SEPs but requires its members to make a blanket FRAND commitment for their future SEPs with an opt-out option, (iii) there are several competing SSOs and (iv) participation to standard-setting activities of the particular SSO is open to anyone in the industry. According to the Guidelines, in this case, it is reasonable for the SSO not to have a disclosure obligation that might cause additional costs and delay standardisation.

⁵⁷⁵ *ibid* [299]; Neelie Kroes (European Commissioner for Competition Policy 2004-2009), 'Setting the standards high' (Speech 2009) <https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_09_475> accessed 30 March 2021: Kroes stated that *ex ante* disclosure of the most restrictive licensing terms is not anticompetitive unless it is used to disguise a cartel. So SSOs should consider incorporating these into their internal rules.

⁵⁷⁶ The Horizontal Guidelines [285].

⁵⁷⁷ *ibid* [285].

⁵⁷⁸ *ibid* [287].

⁵⁷⁹ *ibid* [288].

⁵⁸⁰ *ibid* [289]-[291].

which balances the needs of stakeholders.⁵⁸¹ In terms of stakeholders' needs, it specifically mentioned incentivising innovation by ensuring that SEP owners receive a fair return on their R&D investments, ensuring the sustainability of standardisation and availability of technologies in a competitive market, and facilitating SMEs' participation in standardisation.⁵⁸² Given the multitude of technologies that should be implemented in the ICT sector, the Commission concludes that it is uncertain: (i) who the SEP owners are; (ii) the total royalty costs of implementing a standard; (iii) the method used to calculate SEP royalties; and (iv) the resolution mechanisms for SEP-related disputes.⁵⁸³ It states that 'a fast, predictable, efficient and globally acceptable licensing approach would be beneficial.'⁵⁸⁴ Finally, within its action plan, the Commission set out to identify possible measures to: (i) improve accessibility and reliability of information on patent scope including measures to make SEP declarations more transparent and improve their quality; (ii) clarify core elements of equitable, effective, and enforceable FRAND licensing; and (iii) facilitate the efficient and balanced settlement of SEP-related disputes.⁵⁸⁵

3.2.5. COMMUNICATION: SETTING OUT THE EU APPROACH TO STANDARD ESSENTIAL PATENTS (2017)

In this Communication, which directly focuses on SEPs, there is specific reference to the issues in relation to licensing and enforcement of SEPs such as patent hold-up and patent hold-out and it was acknowledged that certain SSOs have difficulties in addressing these issues given the conflicting interests of their members.⁵⁸⁶ The main purpose of the Communication was to set out key principles for SEP licensing to foster a balanced IPR framework supporting 'a sustainable and efficient standardisation ecosystem and SEP licensing environment'.⁵⁸⁷ The Commission considered these key principles as incentivising the contribution of potential SEP owners to standardisation with state-of-the-art technologies while ensuring access to standards on FRAND terms.⁵⁸⁸ The

⁵⁸¹ Commission, 'ICT Standardisation Priorities for the Digital Single Market' COM(2016) 176 final, 3, 13.

⁵⁸² *ibid* 13.

⁵⁸³ *ibid*.

⁵⁸⁴ *ibid*.

⁵⁸⁵ *ibid* 14.

⁵⁸⁶ Commission, 'Setting out the EU approach to Standard Essential Patents' COM(2017) 712 final, 2; There is a reference to 'ICT Standardisation Priorities for the Digital Single Market' (see n 581) in terms of the main areas of the SEP licensing environment that can be improved according to the Commission.

⁵⁸⁷ Commission, 'Setting out the EU approach to Standard Essential Patents' (n 586) 2 and 13; Commission, 'Making the most of the EU's innovative potential An intellectual property action plan to support the EU's recovery and resilience' COM(2020) 760 final, 4, 13: The Commission stated that, despite the 2017 Communication, some businesses still face difficulties in SEP licensing, frequently leading to disputes. It added that in the short term, industry-led initiatives will be facilitated to reduce these disputes and 'the Commission will consider reforms to further clarify and improve the framework governing the declaration, licensing and enforcement of SEPs.' (e.g. setting up an independent third-party essentiality check system for SEPs). There was a reference to using the Commission's potential to guide and influence regulatory initiatives in other jurisdictions to deal with global issues like the SEP licensing.

⁵⁸⁸ Commission, 'Setting out the EU approach to Standard Essential Patents' (n 586) 2.

Commission explicitly stated that Communication does not bind itself in terms of the application of the competition rules and, in particular, Article 101 and Article 102.⁵⁸⁹

Key principles for SEP licensing are set under four main headings in the Communication: (i) increasing transparency on SEPs exposure; (ii) general principles for FRAND licensing terms for SEPs; (iii) a predictable enforcement environment for SEPs; and (iv) open source and standards.⁵⁹⁰

3.2.5.1. Increasing transparency on SEPs exposure

The Commission referred to the obscurity of SSOs' databases, which are the only source of information on SEPs, and its adverse effects on SEP licensing negotiations.⁵⁹¹ Thus, the Communication listed a series of measures to increase SEP transparency.⁵⁹²

First, the Commission proposed the improvement of SSOs' databases: particularly the provision of the information that will assist the licensing framework by using user-friendly interfaces and opening these databases up to third parties.⁵⁹³ The Commission also referred to the necessity of linking these databases with patent office databases to be able to access detailed information about SEPs more conveniently.⁵⁹⁴ These proposals were tied to scrutinising compliance with the disclosure obligation more strictly.⁵⁹⁵

Second, the Commission suggested improving the SEP licensing framework by creating new transparency tools, without burdening stakeholders disproportionately, to reduce transactions costs and infringement risks.⁵⁹⁶ In this context, the Commission referred to the fact that standards and patent applications mostly change during the period between the first declaration and finalisation of standards.⁵⁹⁷ Therefore, the revision of declarations by SEP owners when the patent is granted and/or standard is finalised, to

⁵⁸⁹ *ibid* 3.

⁵⁹⁰ *ibid* 12: The Communication states that the interaction between open source projects and standardisation will promote the development of advanced technologies.

⁵⁹¹ *ibid* 3.

⁵⁹² *ibid*.

⁵⁹³ *ibid*.

⁵⁹⁴ *ibid*.

⁵⁹⁵ *ibid* 4.

⁵⁹⁶ *ibid*: In terms of the proportionality of these new tools, the Commission stated that in any case, SEP owners are under the obligation to show the essentiality of their SEPs and how these are being infringed during licensing negotiations.

⁵⁹⁷ *ibid*.

ensure essentiality, was recommended.⁵⁹⁸ The Commission was also of the opinion that the provision of more information by SEP owners, such as the main outcomes of SEP-related actions, is useful.⁵⁹⁹

Over-declaration was also considered in the Communication by pointing out the need for essentiality checks conducted by independent parties. Even though the Commission was cautious about the potential financial consequences of such practice, it stated that the costs could be reduced if the checks are conducted only upon request and limited to one patent in patent families/samples.⁶⁰⁰ As to potential means of implementing these new transparency rules and after highlighting the importance of proportionality, the Commission referred to: (i) extending their implementation gradually and applying them to key standards (e.g. 5G) only; (ii) incentivising stakeholders to value increased transparency (e.g. by declaring SEP portfolios complying with transparency criteria); (iii) introducing modest fees for confirming SEP declarations once the standard is finalised and/or the patent is granted to minimise over-declaration; and (iv) the possibility of cooperating with patent offices for essentiality checks.⁶⁰¹

3.2.5.2. General principles for FRAND licensing terms for SEPs

The Commission acknowledged that the contracting parties are in the best position to agree on fair licensing terms by engaging good-faith negotiations.⁶⁰² It also highlighted the negative effects of the vague FRAND concept and particularly the lack of consensus on the royalty rate calculation.⁶⁰³ Thus, the Commission provided some guidance on FRAND to stabilise the licensing environment, guide parties in negotiations, and reduce the volume of SEP litigation.⁶⁰⁴

⁵⁹⁸ *ibid.*

⁵⁹⁹ *ibid.*

⁶⁰⁰ *ibid* 5; For more information about the essentiality assessment see Rudi Bekkers et al, 'Pilot Study for essentiality Assessment of Standard Essential Patents' (Nikolaus Thumm ed) [2020] <https://publications.jrc.ec.europa.eu/repository/bitstream/JRC119894/jrc119894_online.pdf> accessed 25 January 2021.

⁶⁰¹ Commission, 'Setting out the EU approach to Standard Essential Patents' (n 586) 5; Council of the European Union, 'Council conclusions on the enforcement of Intellectual Property Rights' 6681/18, [13], [15]: SSOs should ensure the compliance of their databases with the main features provided in the Communication, update their declaration system and 'improve the information flow on the existence, scope and relevance of SEPs'. It is crucial to increase SEP transparency, so the Commission should, perhaps in cooperation with other stakeholders, develop a system to scrutinise this better; Claudia Tapia and Gabriele Mohler, 'The current cost of transparency in IoT patent licensing' (2019) <<https://www.iam-media.com/article/transparency-in-iot-licensing>> accessed 9 June 2021: They stated that ETSI has multiple times declined to conduct essentiality checks.

⁶⁰² Commission, 'Setting out the EU approach to Standard Essential Patents' (n 586) 6.

⁶⁰³ *ibid.*

⁶⁰⁴ *ibid*; Besides national case law, the Commission's guidance is based on 'Public consultation on patents and standards: A modern framework for standardisation involving intellectual property rights' [2015]; Chryssoula Pentheroudakis and Justus A. Baron, 'Licensing Terms of Standard Essential Patents' (JRC Science for Policy Report) (Nikolaus Thumm ed) [2017]

In terms of licensing principles, with reference to the CJEU's *Huawei v ZTE* ruling, the Commission stated that a FRAND undertaking creates legitimate expectations that the SEP will be licensed on FRAND terms.⁶⁰⁵ It emphasised the importance of negotiating in good faith to agree on FRAND licensing terms again, though stating that there is no one-size-fits-all solution as to the meaning of FRAND.⁶⁰⁶ The Commission also encouraged sectoral discussions to establish common licensing practices.⁶⁰⁷ The following IP valuation principles were also listed in the Communication: (i) there should be a clear relationship between licensing terms and the value of the proprietary technology; (ii) FRAND value should be determined considering the present value added to the product by the proprietary technology irrespective of the success of the product and there should be room to reduce the royalties where there is a long-term license; (iii) FRAND values should also incentivise potential SEP owners' contribution to standardisation; and (iv) royalty stacking should be avoided by considering a reasonable aggregate royalty rate for each standard.⁶⁰⁸ The Commission stated that the transparency enhancing measures discussed under 3.2.5.1., creation of industry licensing platforms and patent pools as well as facilitating the indication of maximum cumulative rates, could help to avoid royalty stacking.⁶⁰⁹ Besides royalty stacking, the Commission supported the creation of industry licensing platforms and patent pools within the limits of competition law to clarify SEP licensing conditions further by making essentiality checks easier and providing a one-stop-shop solution.⁶¹⁰

The Commission also mentioned the non-discriminatory limb of FRAND and, with reference to the *Unwired Planet v Huawei* judgment of Birss J,⁶¹¹ concluded that SEP owners cannot discriminate between potential licensees that are similarly situated.⁶¹²

<<https://publications.jrc.ec.europa.eu/repository/bitstream/JRC104068/jrc104068%20online.pdf>> accessed 27 January 2021; Pierre Régibeau et al, 'Study on Transparency, Predictability and Efficiency of SDO-based Standardization and SEP Licensing' [2016] <<https://ec.europa.eu/docsroom/documents/20506/attachments/1/translations/en/renditions/pdf>> accessed 27 January 2021.

⁶⁰⁵ Commission, 'Setting out the EU approach to Standard Essential Patents' (n 586) 6.

⁶⁰⁶ *ibid.*

⁶⁰⁷ *ibid.*

⁶⁰⁸ *ibid* 6-7.

⁶⁰⁹ *ibid* 7.

⁶¹⁰ *ibid.*

⁶¹¹ *Unwired Planet International Limited v Huawei Technologies Co. Limited* [2017] EWHC 2988 (Pat), [2017] RPC 19.

⁶¹² Commission, 'Setting out the EU approach to Standard Essential Patents' (n 586) 7; N Cansin Karga Giritli, 'Unwired Planet v Huawei - is FRAND appealing?' [2019] 9 QMJIP 490: While Huawei argued that non-discrimination requires the payment of the same royalty rate by similarly situated firms, Birss J adopted a more flexible approach and concluded that 'non-discrimination requires the determination of a benchmark FRAND royalty rate and the licensor should grant licences on this rate to all licensees seeking the same kind of licence.'

Also it stated that transaction costs of licensing negotiations should be minimised and the efficiency gains of cross-licensing should be considered.⁶¹³ It also acknowledged that global SEP licences may be more efficient and FRAND-compatible where the relevant product is available globally.⁶¹⁴ The emphasis is on being globally available, as the Commission explicitly stated that FRAND calculations should not disadvantage (potential) licensees targeting a limited geographic area.⁶¹⁵

The final issue that the Commission pointed out under general FRAND licensing principles is exploiting and deepening FRAND expertise and experience which is not easily accessible due to the lack of a common repository.⁶¹⁶ It proposed to set up an expert group to overcome this hurdle.⁶¹⁷

3.2.5.3. A predictable enforcement environment for SEPs

The Commission stated that SEPs are litigated more than ordinary patents and that litigation affects licensing negotiations substantially.⁶¹⁸ It also referred to some stakeholders' comments asserting that uncertainties and imbalances in SEP enforcement create barriers to market entry.⁶¹⁹ The Commission acknowledged that the focal point of SEP-related litigation is the availability of injunctive relief which should be available without facilitating patent hold-up or patent hold-out.⁶²⁰

After referring to the CJEU's *Huawei v ZTE* ruling, according to which a SEP owner cannot seek an injunctive relief against a willing licensee, the Commission provided additional guidance in light of the national caselaw: (i) SEP owners should provide detailed and adequate information about SEP portfolios and FRAND compliance, particularly on essentiality, the alleged infringing products of potential licensees, the proposed royalty rates and their calculation methods, and the non-discrimination element; (ii) potential licensees should make concrete and specific counteroffers within a reasonable period;

⁶¹³ Commission, 'Setting out the EU approach to Standard Essential Patents' (n 586) 7.

⁶¹⁴ *ibid.*

⁶¹⁵ *ibid.*

⁶¹⁶ *ibid.* 8.

⁶¹⁷ *ibid.* 8; The expert group was set up in 2018, for its website see <https://ec.europa.eu/growth/industry/strategy/intellectual-property/patent-protection-eu/standard-essential-patents_en> accessed 26 January 2021.

⁶¹⁸ Commission, 'Setting out the EU approach to Standard Essential Patents' (n 586) 9; Jorge J Contreras et al, 'Litigation of Standards-Essential Patents in Europe: A Comparative Analysis' (2018) 32 Berkeley Tech. L.J. 1457; Considering the limited patent litigation data in Germany (2000-2008) and the UK (2000-2013), SEP assertions represented 8% of all the reviewed German and 6% of all the reviewed UK patent cases.

⁶¹⁹ Commission, 'Setting out the EU approach to Standard Essential Patents' (n 586) 9.

⁶²⁰ *ibid.*

and (iii) the level of security provided by potential licensees, to avoid injunctive relief, should be determined with a view to discouraging patent hold-out.⁶²¹ The Commission considered the willingness to submit to binding third-party FRAND determination as an indication of willingness to enter into a FRAND license.⁶²² The Commission also stated that the issue of whether a counteroffer is made within a reasonable period should be assessed considering the specific circumstances of the case as several factors like the detail and quality of the information provided by the SEP owner are relevant.⁶²³ In this context, the Commission again referred to improving SEP transparency to reduce the number of SEPs which would, in turn, shorten the time period required by potential licensees for making counteroffers.⁶²⁴

The Commission considered the proportionality of SEP-based injunctive relief which must only be granted if effective, proportionate, and dissuasive pursuant to Article 3(2) of the Enforcement Directive.⁶²⁵ As per the Commission, whilst granting an injunction, the relevance of the technology in the application of the standard and the potential effects of an injunction on third parties should also be taken into account.⁶²⁶

Again, with reference to the CJEU's *Huawei v ZTE* ruling, the Commission stated that SEP owners may offer to license complementary SEPs and non-SEPs together but they cannot force potential licensees to enter into a licensing agreement for non-SEPs.⁶²⁷ It also pointed out that a potential licensee might be deemed to be in bad faith where it is unwilling to take a licence for all the relevant SEPs.⁶²⁸ In the same vein, the Commission concluded that only a counteroffer covering all the SEPs can be considered FRAND.⁶²⁹ It is also clarified that potential licensees can question/challenge SEPs' validity and essentiality.⁶³⁰

Although the Commission recognised the potential benefits of resolving SEP disputes through ADR, it made it clear that parties cannot be obliged to use ADR.⁶³¹ The

⁶²¹ *ibid* 9-10.

⁶²² *ibid* 10.

⁶²³ Commission, 'Setting out the EU approach to Standard Essential Patents' COM(2017) 712 final I, 10.

⁶²⁴ *ibid* 10.

⁶²⁵ *ibid*; The Enforcement Directive.

⁶²⁶ Commission, 'Setting out the EU approach to Standard Essential Patents' (n 586) 10.

⁶²⁷ *ibid* 10-11.

⁶²⁸ *ibid* 11.

⁶²⁹ *ibid*.

⁶³⁰ *ibid*.

⁶³¹ *ibid*.

Commission referred to the unpredictability and confidentiality of previous ADR decisions as the features hampering its widespread use.⁶³² Thus, it proposed to make these decisions accessible from SSOs' databases.⁶³³ The importance of the quality of arbitrators besides having appropriate procedural rules in place was highlighted, and setting up an ADR centre within the Unified Patent Court was proposed.⁶³⁴

The Commission argues that PAEs should be treated in the same way as any other SEP owner and it was stated that the necessary safeguards against their harmful effects are in place in the EU.⁶³⁵ The Commission also argued that increasing SEP transparency and the application of the proportionality principle by courts would provide further protection against the practices of PAEs.⁶³⁶ Finally, the Commission emphasised the importance of raising awareness of the FRAND licensing process and its implications.⁶³⁷

4 CONCLUSION

EU and US law mostly treat SEP disputes similarly; therefore, rather than repeating the same analysis, this part focuses on the unique points drawn from the EU sources and, where necessary, points out divergences between the two systems.

A critical point (i.e. disclaimer) to note is the difference in the number of cases in the US and the EU: there are more court cases in the US, whereas there is only one CJEU ruling in the EU. This is not exactly an accurate presentation of reality. This is the result of the difference between the EU and US court systems, in conjunction with the jurisdictional scope of this work.

As mentioned above, in the US, District Court decisions can be appealed before appellate courts, which are within the jurisdictional scope of this thesis, whereas the CJEU does not function as an appellate court for national courts, and national appellate courts' judgments are outside the jurisdictional scope of this work. Indeed, the number of judgments made at the national level following *Huawei v ZTE*,⁶³⁸ listed on 4iP Council's

⁶³² *ibid.*

⁶³³ *ibid.*

⁶³⁴ *ibid.*; For more information about the Unified Patent Court see <<https://www.unified-patent-court.org/>> accessed 26 January 2021.

⁶³⁵ *ibid.* 11.

⁶³⁶ *ibid.* 12.

⁶³⁷ *ibid.*

⁶³⁸ *Huawei v ZTE* (n 251).

website, also shows that the EU national courts frequently deal with SEP disputes.⁶³⁹ Here, it is also worth noting the difference in competition/antitrust law enforcement between the EU and the US. In the former, public enforcement (i.e. enforcement by public enforcers such as the Commission and national competition authorities) is the predominant system; the latter mainly relies on private enforcement (i.e. civil antitrust litigations), which contributes to the impression that there is more SEP litigation in the US than at the EU level. Finally, although the CJEU could review the Commission's decisions, except for *Motorola GPRS*⁶⁴⁰ all the decisions the Commission made in the cases reviewed are commitment decisions made as per Article 9 of Regulation 1/2003, where there is no finding of infringement, and unsurprisingly they were not appealed before the CJEU.⁶⁴¹

The 1992 Communication⁶⁴² favoured SEP-free standards as much as possible, but this seems impossible now given the rapid development of technology and the increased importance of interoperability since the late 90s. For instance, as of January 2020, 95.526 patents (21.571 patent families) are declared essential for the next big ICT and standardisation milestone, 5G.⁶⁴³ Since SEPs are here to stay, the question is how to make their integration into standardisation smoother and benefit the state-of-the-art technologies they offer whilst minimising the adverse effects arising from the extra power they granted to their owners. As mentioned in Chapter II, IPR policies look like the most promising candidate to deal with SEP-related licensing issues, particularly given their flexibility and the fact that they are the primary documents regulating the relationship between stakeholders. Therefore, SSOs should take the initiative to revise their IPR policies to improve the SEP licensing framework. The Commission has also supported this position in the Horizontal Guidelines by highlighting the importance of having clear and balanced IPR policies to ensure effective access to standards.⁶⁴⁴

As in the US, IPR policies are one of the main documents the CJEU and the Commission consider in SEP cases, supporting the notion that SSOs may not simply take a passive

⁶³⁹ <<https://caselaw.4ipcouncil.com/>> accessed 10 April 2022.

⁶⁴⁰ *Motorola Enforcement of GPRS Standard Essential Patents* (Case AT.39985).

⁶⁴¹ Florian Wagner-von Papp and Helmut Schmidt, 'Commitment Decisions: An Overview of EU and National Case Law' (2019) <<https://www.concurrences.com/en/bulletin/special-issues/commitment-decisions/new-article-no90109>> accessed 10 April 2022: Since commitments decisions are consensual, the Commission generally does not want to undo the compromise unless the underlying factual basis or circumstances change. It is also unclear whether the undertaking offered commitments could appeal the decision. Finally, although third parties could appeal commitment decisions, these can only be successful in exceptional circumstances.

⁶⁴² Commission, 'Intellectual Property Rights and Standardisation' COM(92) 445 final.

⁶⁴³ Tim Pohlmann et al, 'Fact finding study on patents declared to the 5G standard' (n 18) 9, 41.

⁶⁴⁴ The Horizontal Guidelines [279], [284].

stance in terms of their IPR policies. Indeed, the AG Wathelet in *Huawei v ZTE* saw the unclear FRAND concept as the main source of the dispute and argued that this could have been mitigated if SSOs regulated the SEP licensing negotiations better.⁶⁴⁵ In all the cases referred to under 3.1.3., the CJEU and the Commission mainly considered IPR policies in their assessments. For example, in *Rambus*, like the US courts, the Commission considered JEDEC's IPR policy and the members' understanding of it and assessed the conduct against this analysis.⁶⁴⁶ In the same case, the Commission also made it clear that SSOs have a responsibility to have clear rules and reduce the risk of anticompetitive conduct.⁶⁴⁷

As explained in detail above, at the EU level, the main legal ground in SEP cases is Article 102, abuse of dominance, and, unlike in the US, contract law remedies are not utilised at the EU level. However, the Commission seems indirectly to favour regulating the licensing process contractually. In its 2016 Communication, the Commission stated, '[a] globally acceptable licensing approach ... would be beneficial',⁶⁴⁸ which could only be achieved by stipulating parties' rights and obligations contractually in an ecosystem where stakeholders are located in different jurisdictions with diverging rules. IPR policies and FRAND commitments could set up contractual relationships between stakeholders.

Although not very pronounced, on the point of whether non-members are third-party beneficiaries of SEP owners' FRAND commitments, the EU's and the US' approaches diverge. As mentioned in Chapter II, in *Continental Automotive Systems, Incorporated v Avanci, L.L.C.*, the Court concluded that Continental, which was not a member of the relevant SSO, was not a third-party beneficiary to the FRAND commitments made by the SEP owners participating in Avanci's pool.⁶⁴⁹ On the other hand, in the 1992 Communication, the Commission stated that SEP licences should be available for non-members: which could be interpreted as recognising non-members as third-party beneficiaries of FRAND commitments. Perhaps this point could be further clarified by SSOs.⁶⁵⁰ If non-members' third-party beneficiary status is acknowledged, they can rely on contract law remedies if a SEP owner breaches its commitment.

⁶⁴⁵ *Huawei v ZTE*, Opinion of AG Wathelet (n 447) [9], [11].

⁶⁴⁶ *Rambus* (Case COMP/38.636) Decision (n 389) [37].

⁶⁴⁷ *Rambus* (Case COMP/38.636) Memo (n 453) 2-3.

⁶⁴⁸ Commission, 'ICT Standardisation Priorities for the Digital Single Market' (n 581) 13.

⁶⁴⁹ *Continental Automotive Systems, Inc. v Avanci* (n 122) 334.

⁶⁵⁰ Commission, 'Intellectual Property Rights and Standardisation' (n 522) [4.7.1], [6.2.1].

Even though the Commission came very close to interfering with ETSI IPR policy in *ETSI Interim IPR Policy*⁶⁵¹ and *Sun/ETSI*,⁶⁵² there is no decision against an SSO in terms of its IPR policy. This does not mean that SSOs are entirely immune from liability, particularly competition law liability, as their conduct, in theory, could infringe Article 101. Indeed, in its 1992 Communication, among other grounds, the Commission referred to a catch-all term of *facilitating restrictive practices* whilst listing some practices which may lead to SSOs' liability in the context of Article 101.⁶⁵³

As in Chapter II, the rest of this part is based on the underlying causes of SEP licensing issues listed in Table 2 provided in Chapter II.

In the 1992 Communication, the Commission refers to under- (and late) disclosure of potential SEPs. As discussed in Chapter II, this issue is more historical now, and over-declaration is a phenomenon the standardisation ecosystem has been grappling with.⁶⁵⁴

Among the sources reviewed, the 2016 Communication is the first source where the Commission referred to over-disclosure indirectly when it discussed improving the quality of SEP declarations.⁶⁵⁵ Then, a year later, in the 2017 Communication, the Commission directly referred to over-declaration and even proposed some solutions to minimise this issue.⁶⁵⁶ First, the Commission suggested linking SSOs' SEP databases to patent offices' databases for facilitating access to information about SEPs.⁶⁵⁷ Second, it referred to independent essentiality checks and the possibility of cooperation between SSOs and patent offices for this purpose.⁶⁵⁸ It proposed to limit the number of SEPs in a portfolio (rather than checking the essentiality of every declared SEPs) to reduce costs.⁶⁵⁹ These proposals, mainly cooperating with patent offices for essentiality checks and investigating alternatives to checking the essentiality of every single SEP in a portfolio, might guide SSOs in alleviating over-disclosure. Another suggestion that SSOs may consider is updating SEP declarations when the patent is granted, or the standard is finalised, given that standards and patent applications change during the standardisation process.⁶⁶⁰ Similarly,

⁶⁵¹ ETSI Interim IPR Policy (Case no. IV/35.0006) [1995].

⁶⁵² *Sun/ETSI* (n 37).

⁶⁵³ Commission, 'Intellectual Property Rights and Standardisation' (n 522) [5.1.2]-[5.1.3].

⁶⁵⁴ *ibid* [4.4.1], [4.4.2], [4.5.1], [6.2.1].

⁶⁵⁵ Commission, 'ICT Standardisation Priorities for the Digital Single Market' (n 581) 14.

⁶⁵⁶ Commission, 'Setting out the EU approach to Standard Essential Patents' COM(2017) 712 final.

⁶⁵⁷ Commission, 'Setting out the EU approach to Standard Essential Patents' (n 586) 3.

⁶⁵⁸ *ibid* 5.

⁶⁵⁹ *ibid*.

⁶⁶⁰ *ibid* 4.

imposing an ongoing obligation to provide information on the status of declared SEPs (e.g. invalidation) on SEP owners, as proposed by the Commission, could help SSOs deal with over-declaration.⁶⁶¹

The Commission thinks that patent pools could help avoid royalty stacking and make essentiality checks easier.⁶⁶² The DOJ reviewed Avanci's essentiality review and concluded that pools could save costs to licensees and serve as a one-stop-shop solution, which is in line with the Commission's view.⁶⁶³ This further reinforced the idea that SSOs could encourage or even facilitate the use of pools to improve the SEP licensing framework.

Despite the complaint filed against ETSI's proposal obliging SEP owners to disclose the maximum royalty rate in *ETSI Interim IPR Policy*,⁶⁶⁴ the Commission views such an obligation as compatible with competition law. In the White Paper published in 2009, the Commission proposed the introduction of *ex ante* disclosure of most restrictive licensing terms, including maximum royalty rates, and subsequently in the Horizontal Guidelines confirmed that, in principle, such a disclosure will not infringe Article 101.⁶⁶⁵

As per the Horizontal Guidelines, irrevocable FRAND commitments given prior to adopting a standard are essential for IPR policies to ensure effective access to standards.⁶⁶⁶ However, the existence of a FRAND commitment alone is not enough to access standards effectively due to the vagueness of the FRAND concept. Indeed, in *Huawei v ZTE*, after clarifying that, under Article 102, SEP owners are only obliged to license their SEPs on FRAND terms, the Court concluded that the parties could not agree on the requirements of unclear FRAND concept and referred to this as a main cause of the dispute.⁶⁶⁷

First in *Nokia/Bosch + ICom* and then in the Horizontal Guidelines, the Commission acknowledged the importance of FRAND commitments passing to subsequent owners of

⁶⁶¹ *ibid.*

⁶⁶² *ibid.* 7.

⁶⁶³ DOJ, 'Avanci Business Review Letter' (2020) (n 308) 4-5, 9.

⁶⁶⁴ ETSI Interim IPR Policy (Case no. IV/35.0006) [1995].

⁶⁶⁵ Commission, 'Modernising ICT Standardisation in the EU - The Way Forward' (White Paper) (n 551) 8-9; The Horizontal Guidelines [299].

⁶⁶⁶ The Horizontal Guidelines [285].

⁶⁶⁷ *Huawei v ZTE* (n 251) [54].

the encumbered SEPs, which might be further clarified in IPR policies for the avoidance of doubt.⁶⁶⁸

The Commission drew a line between pre-and post-FRAND commitment practices and clearly stated that the FRAND commitment limits SEP owners' licensing practices and almost imposed a special obligation on them by stating that they are more susceptible to antitrust claims after committing to license their SEPs on FRAND terms.⁶⁶⁹ Another interesting point made in the 2017 Communication in reference to *Huawei v ZTE*⁶⁷⁰ is the importance of negotiating in good faith to agree on FRAND terms, which may be interpreted as an obligation imposed not only on SEP owners but also on potential licensees.⁶⁷¹ Perhaps SSOs could take this indication one step further and oblige potential licensees to negotiate in good faith to reach FRAND terms (i.e. FRAND negotiation) in their IPR policies to create a clear contractual obligation that SEP owners could enforce against potential licensees who are unreasonably reluctant to engage in licensing negotiations.

Both in the Horizontal Guidelines and the 2017 Communication, the Commission highlighted that reasonable royalty rates should reflect the value of the proprietary technology.⁶⁷² In the 2017 Communication, the Commission elaborated on this point further and stated that the success of the standard-compliant product should not affect the royalty rate.⁶⁷³ The Commission also acknowledged the importance of incentivising the contribution to standardisation with state-of-the-art technologies by ensuring that SEP owners are fairly remunerated.⁶⁷⁴ Avoiding royalty stacking by considering a reasonable aggregate royalty rate for each standard is another issue covered in the 2017 Communication.⁶⁷⁵ As mentioned before, calculation methods to determine reasonable royalties are beyond the scope of this work. However, clarifying that reasonable royalties should only reflect the value of the proprietary technology as if the technology has not been incorporated into a standard and irrespective of the relevant product's success could be a step in the right direction.

⁶⁶⁸ *Nokia/Bosch* (Case no. 39615) Memo/09/549 [2009]; The Horizontal Guidelines [285].

⁶⁶⁹ Commission, 'Intellectual Property Rights and Standardisation' (n 522) [4.3.5], [4.7.3].

⁶⁷⁰ *Huawei v ZTE* (n 251).

⁶⁷¹ Commission, 'Setting out the EU approach to Standard Essential Patents' (n 586) 6.

⁶⁷² The Horizontal Guidelines [289]; *ibid* 6-7.

⁶⁷³ Commission, 'Setting out the EU approach to Standard Essential Patents' (n 586) 7.

⁶⁷⁴ *ibid*.

⁶⁷⁵ *ibid*.

In line with the US caselaw, in the EU, non-discrimination does not necessarily mean offering identical terms to all licensees. In *Rambus*, the Commission clearly stated that a SEP owner could justify offering lower royalties to a potential licensee under certain circumstances: for example, if a licensee agreed to make lump sum royalty payments.⁶⁷⁶ Also, in the 2017 Communication, the Commission made it clear that non-discrimination requires SEP owners not to discriminate between similarly-situated licensees.⁶⁷⁷ Thus, it is safe to say that the meaning of non-discrimination is settled in the EU and US, and in light of this, SSOs could transpose these principles into their IPR policies to provide further clarification. In the same Communication, the Commission also mentioned the compatibility of global SEP licences with FRAND commitment as long as the standard-compliant product is globally available.⁶⁷⁸

Regarding SEP-based injunctions in *Samsung* and *Motorola GPRS*, the Commission stated that a FRAND commitment creates an expectation that the SEP owner licenses its SEPs on FRAND terms rather than excluding (potential) licensees by enforcing these.⁶⁷⁹ This point was reiterated in the 2017 Communication.⁶⁸⁰ In the same communication, the Commission highlighted the importance of considering the relevance of the technology to the application of the standard and the potential effects of an injunction on third parties whilst granting it.⁶⁸¹

Perhaps one could argue that the US was leading the way in standardisation-related discussions, particularly right after *Rambus*, and phenomena like patent hold-up were first discussed there rather than in the EU. However, with the guidelines provided for SEP-based injunctions, the EU started to lead the way and influence US jurisprudence as mentioned in Chapter II (i.e. reference to the guidance similar to the *Huawei v ZTE* guidelines in the Draft Policy Statement 2021).⁶⁸² Therefore, it is worth looking at the process which led to the *Huawei v ZTE* guidelines more closely before discussing whether SSOs should transpose any *Huawei v ZTE* principles into their IPR policies.

⁶⁷⁶ *Rambus* (Case COMP/38.636) Rejection Decision [2010] [64]-[66].

⁶⁷⁷ Commission, 'Setting out the EU approach to Standard Essential Patents' (n 586) 7.

⁶⁷⁸ *ibid.*

⁶⁷⁹ *Samsung - Enforcement of UMTS standard essential patents* (Case AT.39939) Commitments Decision [2014] [57], [61]; *Motorola Enforcement of GPRS Standard Essential Patents* (Case AT.39985) Decision (n 399) [294].

⁶⁸⁰ Commission, 'Setting out the EU approach to Standard Essential Patents' (n 586) 6.

⁶⁸¹ *ibid.* 10.

⁶⁸² DOJ, USPTO and NIST, 'Draft Policy Statement on Licensing Negotiations and Remedies for Standard-Essential Patents Subject to Voluntary F/RAND Commitments' (248) 5-6, 8.

*Motorola GPRS*⁶⁸³ is the first decision made at the EU level which provided further guidance regarding controversial SEP-based injunctions and created a safe harbour for willing licensees from injunctions. Among other things, the Commission discussed the willing licensee concept and provided its reasoning for why it considered Apple a willing licensee. In general, there are two points related to these factors worth mentioning: (1) the potential licensee's willingness to leave the royalty rate-setting to a competent court; and (2) the fact that the potential licensee could still be willing even if it challenges the validity or infringement of the SEPs.⁶⁸⁴ The former point was also reiterated in *Samsung*.⁶⁸⁵ Besides, both in *Motorola GPRS* and *Samsung*, the Commission emphasised the importance of invalidating patents that should not have been granted in the first place.⁶⁸⁶ The willingness to submit to binding third-party FRAND determination was also mentioned in the 2017 Communication as a factor indicating that the potential licensee is willing after providing additional guidance to the *Huawei v ZTE* guidelines.⁶⁸⁷

The starting point of the *Huawei v ZTE* guidelines is to clarify why a FRAND-encumbered SEP constitutes an exception to the principle that the enforcement of IPRs (including refuse to license) breaches Article 102 only in exceptional circumstances. The underlying principle of the *Huawei v ZTE* guidelines is referred to in 3.1.3.8. above is communicating in good faith to reach FRAND terms (i.e. FRAND negotiation). The ruling provides further explanation as to how this could be achieved. As per *Huawei v ZTE*, a potential licensee is still deemed to engage in FRAND negotiations even where it seeks to invalidate a SEP or challenges its essentiality or infringement.⁶⁸⁸

Although *Huawei v ZTE* provides valuable guidelines, its lack of clarity about specific points has been criticised. For instance, whether an alleged infringer needs to provide a security whilst making a counteroffer, how long a (potential) licensee could take to respond to satisfy the prompt reaction criteria, when a SEP owner is dominant and the lack of guidance as to FRAND terms are among the points commentators criticised.⁶⁸⁹ It is also argued that the ruling does not offer a definitive solution to the scenario where the

⁶⁸³ *Motorola Enforcement of GPRS Standard Essential Patents (Case AT.39985)* Decision (n 399).

⁶⁸⁴ *ibid* [303], [439]-[440].

⁶⁸⁵ *Samsung - Enforcement of UMTS standard essential patents (Case AT.39939)* Memo (n 493) 2.

⁶⁸⁶ *Motorola Enforcement of GPRS Standard Essential Patents (Case AT.39985)* Decision (n 399) [376]-[381]; *Samsung - Enforcement of UMTS standard essential patents (Case AT.39939)* Commitments Decision [2014] [83], [98], [106].

⁶⁸⁷ Commission, 'Setting out the EU approach to Standard Essential Patents' (n 586) 11.

⁶⁸⁸ *Huawei v ZTE* (n 251) [69].

⁶⁸⁹ David Wilson et al, 'CJEU permits standard essential patent (SEP) injunction against infringers who engage in delaying tactics or do not respond diligently with a good faith counteroffer' (2015) EIPR 37(11) 741, 744; Stephan Barthelmess et al, 'Enforcing Standard-Essential Patent --The European Court of Justice's ruling in Huawei v. ZTE' (2015) 27 No. 12 Intell. Prop. & Tech. LJ 12; Picht (n 521).

parties cannot agree on licensing conditions even though they both made offers or what would be the best course of action for courts if both parties' offers are FRAND.⁶⁹⁰ Another criticism is the fact that the Court did not clarify whether either parties' willingness to have the licensing terms determined by an independent third party is FRAND per se or what should be the solution if the parties are ready to submit the dispute to a third party but cannot agree on the venue.⁶⁹¹ Some commentators also found the general nature of the guidelines, which tilted the scale towards SEP owners, unhelpful and asserted that some national courts are more favourable to SEP owners.⁶⁹² Although there is merit to these criticisms, it is not reasonable to expect the CJEU to consider every single detail and scenario and provide a definitive answer for all of them in a ruling aiming to answer certain questions. Also, not having very rigid guidelines provides flexibility to national courts so they can, where necessary, apply it in a way to reach the most equitable outcome.

In the 2017 Communication, although not addressing all the criticisms mentioned above, the Commission elaborated on the *Huawei v ZTE* guidelines and, for example, required SEP owners to provide information on the essentiality and compliance of their offers with the FRAND commitment.⁶⁹³ Again, the Communication highlights the importance of making concrete and specific counteroffers within a reasonable period by potential licensees.⁶⁹⁴ The Commission also referred to patent hold-out in the context of the security provided by the alleged infringer and stated that the security level should discourage patent hold-out.⁶⁹⁵ Finally, although the Commission did not rule out bundling complementary SEPs and non-SEP, it made it clear that a potential licensee could not be forced to get a licence for non-SEPs.⁶⁹⁶

⁶⁹⁰ Damien Geradin, 'SEP Licensing After Two Decades of Legal Wrangling: Some Issues Solved, Many Still to Address' (2020) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3547891> accessed 10 May 2021, 5; Barthelmess et al (n 689) 12; Picht (n 521): Picht stated that even though it is not clear whether a potential licensee needs to make a counteroffer if the SEP owner's offer is not clearly FRAND/whether a SEP owner needs to make a FRAND offer if the potential licensee has made it clear that it would not accept any offer than its own terms, it should be accepted that both parties are under the obligation to respond the other party's offer in writing within a reasonable time since it is not possible to know what is FRAND in a certain case.

⁶⁹¹ Barthelmess et al (n 689).

⁶⁹² Barthelmess et al (n 689): They thought that the requirement that an implementer must be able to render accounts where its counteroffer is rejected and if it has been using the SEP seems burdensome; Picht (n 521); Geradin, 'SEP Licensing After Two Decades of Legal Wrangling: Some Issues Solved, Many Still to Address' (n 690) 5; Wilson et al (n 689) 744.

⁶⁹³ Commission, 'Setting out the EU approach to Standard Essential Patents' (n 586) 9-10.

⁶⁹⁴ *ibid* 10.

⁶⁹⁵ *ibid* 10.

⁶⁹⁶ *ibid* 10-11.

SSOs could consider implementing some principles of *Huawei v ZTE* or, perhaps, require their members to follow the guidelines in their entirety in SEP licensing negotiations. Taking this one step further, they could provide further clarification as to the ruling's shortcomings, also considering the Commission's additional guidance. This would converge the courts' approaches towards SEP-based injunctions in different jurisdictions due to essentially enforcing the principles imposed by IPR policies rather than following diverging precedents.

Although the Commission has recognised the potential benefits of using ADR for resolving SEP disputes, it also made it clear that (i) arbitration awards cannot be regarded as final and binding if they apply the provisions of TFEU [then known as the EC Treaty] and (ii) ADR cannot be mandatory.⁶⁹⁷ Perhaps the Commission could revisit these points to ensure that they are still applicable or, if necessary, provide fresh guidance to give more comfort and flexibility to SSOs that plan to utilise ADR mechanisms. The Commission also proposed to make ADR decisions accessible to overcome their unpredictability.⁶⁹⁸ SSOs could perhaps realise this by publishing the redacted version of decisions only to their members, which would strike the right balance between the parties' confidentiality expectations and the wider industry's desire for greater legal certainty. Publishing a non-confidential version of arbitration awards has also been suggested in academic literature discussed in Chapter IV.

Finally, similar to the US, the view in the EU is that SSOs do not need to implement identical IPR policies; they are free to set their own rules as long as they are compatible with competition law, ensuring the consideration of potential SEPs properly, and facilitating innovation.

⁶⁹⁷ Commission, 'Intellectual Property Rights and Standardisation' (n 522) [6.3.1]; *ibid* 11.

⁶⁹⁸ Commission, 'Setting out the EU approach to Standard Essential Patents' (n 586) 11.

CHAPTER 4 LITERATURE REVIEW

1 INTRODUCTION

This Chapter discusses commentators' opinions on SEP licensing issues, how IPR policies affect these, and their IPR policy proposals. The Chapter is divided into three main parts: (1) Brief information on the Governance of SSOs; (2) The Link between SEP Licensing Issues and IPR Policies; and (3) Proposals for Reforming IPR Policies. The first part is based on Justus Baron and others 'Making the Rules: The Governance of Standard Essential Organisations and their Policies on Intellectual Property Rights' and aims to give brief information on the governance of SSOs which directly affects their ability to change IPR policies. The third part is further divided into subheadings (e.g. Essentiality, Disclosure), reflecting the causes of SEP licensing issues. In Conclusion, the main parts are analysed.

The proposals for reforming IPR policies are listed, and relevant concepts are briefly explained in the third part. Also, where necessary, there is brief information on how existing IPR policies exacerbate licensing issues. The proposals are not limited to ones that can only be incorporated by revising IPR policies; instead, there are references to any other proposals that can support or be supported by IPR policies. For example, there are references to certain remedies (e.g. equitable estoppel) that can typically be applied following a court order. However, this remedy is still discussed below, given the possibility that its applicability might be reinforced by IPR policies: for instance, by having members acknowledge that under certain circumstances they cannot enforce their SEPs. Finally, although the chapter is divided into different parts to make it easy to follow, some concepts and themes (e.g. over-declaration) appear in more than one place since almost all the causes of SEP licensing issues, and their solutions, are interrelated.

2 BRIEF INFORMATION ON THE GOVERNANCE OF SSOS

IPR policies are among the most crucial documents that guide stakeholders' conduct concerning IPR in standardisation. They also provide useful guidance to courts and other authorities dealing with SEP disputes in their assessment of parties' SEP-based rights and liabilities. Unsurprisingly, most members consider IPR policies before joining SSOs.⁶⁹⁹ However, IPR policy disputes are rare among SSO members and most SSOs would prefer not to get involved in such disputes.⁷⁰⁰

⁶⁹⁹ Justus Baron et al, 'Making the Rules: The Governance of Standard Development Organisations and their Policies on Intellectual Property Rights' [2019] <<https://publications.jrc.ec.europa.eu/repository/handle/JRC115004>> accessed 19 August 2021, 133.

⁷⁰⁰ *ibid* 111.

An obligation to disclose potential SEPs and including SEPs into standards only if there is a FRAND or less restrictive commitment (e.g. royalty-free) are key provisions of IPR policies implemented by the majority of SSOs.⁷⁰¹ SSOs comply with the requirements of legal, regulatory, and accreditation bodies (e.g. ANSI) by incorporating these core elements into their IPR policies.⁷⁰² SSOs might prefer to include these basic provisions or introduce more detailed provisions; generally SSOs that want to retain their membership/attract more members maintain the status quo and stick to the basic provisions.⁷⁰³

The governance of SSOs strongly affects their ability to change IPR policies. This correlation is more pronounced for issues that at least a group of members could contest: for example, defining FRAND terms, providing further guidance as to FRAND-compliant licensing practices, or introducing ADR mechanisms.⁷⁰⁴

SSOs could be classified by considering the degree of autonomy they have. Generally, SSOs whose staff or leadership carry out essential functions have a higher degree of autonomy, whereas the ones which mostly rely on their membership in decision-making have less autonomy.⁷⁰⁵ It is more likely for the former group to change their IPR policies even if a significant proportion of its membership resists the change, compared to the latter group which substantially relies on their membership in decision-making.⁷⁰⁶ Therefore, less autonomous SSOs generally prefer to take a more neutral stance in controversial issues and implement provisions open to interpretation to satisfy all its members.⁷⁰⁷

Members could also be divided into two main groups, Patent-Centric and Product-Centric, considering their approach towards IPR policies.⁷⁰⁸ Unsurprisingly, while the latter group welcomes increased SSO involvement in SEP licensing, the former group prefers keeping SSOs out of the licensing framework as much as possible.⁷⁰⁹ The members devoting most resources to standardisation could generally influence SSO governance significantly.⁷¹⁰

⁷⁰¹ *ibid* 142.

⁷⁰² *ibid*.

⁷⁰³ *ibid* 146.

⁷⁰⁴ *ibid* 148-149.

⁷⁰⁵ *ibid* 113.

⁷⁰⁶ *ibid* 151-152.

⁷⁰⁷ *ibid* 151.

⁷⁰⁸ *ibid* 133.

⁷⁰⁹ *ibid*.

⁷¹⁰ *ibid* 169.

The IoT has been changing the dynamics in standardisation, and IPR policies are not immune to this. With the increasing importance of standards in this landscape, the social, legal, and economic impact of IPR policies is broader than before.⁷¹¹ The IoT also requires more intense cooperation among SSOs and having compatible IPR policies could smooth over their relationships while ensuring a higher level of clarity.⁷¹²

3 THE LINK BETWEEN SEP LICENSING ISSUES AND IPR POLICIES

The objectives of IPR policies could be summarised as follows: (i) facilitating informed decisions about the inclusion of proprietary technologies into standards; (ii) ensuring that SEP licences are available; (iii) preventing patent hold-up, patent ambush and royalty stacking; (iv) preventing discrimination; and (v) ensuring transparency.⁷¹³ Clarifying these objectives could help to assess SEP licensing proposals and members' conduct better.⁷¹⁴

There are significant differences between IPR policies of different SSOs.⁷¹⁵ For instance, while some of them impose an express disclosure duty, others only imply such a duty, and, in general, they do not define FRAND even though the majority of SSOs require patent owners to license their SEPs on FRAND terms.⁷¹⁶ The following are some general observations about IPR policies:

- i. Disclosure provisions and licensing assurances are crucial safeguards for SSOs allowing incorporation of proprietary technologies into standards.⁷¹⁷

⁷¹¹ *ibid* 168.

⁷¹² *ibid* 175.

⁷¹³ Rudi Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' [2014] <<https://pure.tue.nl/ws/files/3916785/391736021255721.pdf>> accessed 4 February 2021, 38-39.

⁷¹⁴ *ibid* 135.

⁷¹⁵ Lemley, 'Intellectual Property Rights and Standard-Setting Organizations' (n 1) 1891, 1906-1907: Lemley argued that the diversity between IPR policies is accidental and does not result from competition between SSOs. This diversity makes it harder for undertakings participating in several SSOs to know their rights and responsibilities as an SSO member; Jay P Kesan and Carol M Hayes, 'FRAND's Forever: Standards, Patent Transfers, and Licensing Commitments' (2014) 89 *Ind. L.J.* 231, 254: Considering the revision of the small sample of IPR policies, they confirmed that Lemley's conclusion that there are significant differences between IPR policies of different SSOs is still valid in 2013.

⁷¹⁶ Lemley, 'Intellectual Property Rights and Standard-Setting Organizations' (n 1) 1904-1906; Joseph Scott Miller, 'Standard Setting, Patents, and Access Lock-in: RAND Licensing and the Theory of the Firm' (2007) 40 *Ind. L. Rev.* 351: The FRAND concept is clear and certain; Damien Geradin, 'The Meaning of "Fair and Reasonable" in the Context of Third-Party Determination of FRAND Terms' (2014) 21 *Geo. Mason L. Rev.* 919: Geradin stated that the FRAND commitment aims to ensure all implementers' access to standards and reward SEP owners for their R&D activities. They thought the FRAND commitment's vague nature is desirable in the standard setting ecosystem as a strict definition would prejudice the licensing flexibility and potential SEP owners' incentive to participate in standardisation; In the same vein Joshua D Wright, 'SSOs, FRAND, and Antitrust: Lessons from the Economics of Incomplete Contracts' (Speech 2014) 21 *Geo. Mason L. Rev.* 791.

⁷¹⁷ Joanna Tsai and Joshua D. Wright, 'Standard Setting, Intellectual Property Rights, and the Role of Antitrust in Regulating Incomplete Contracts' (2015) 80 *Antitrust L.J.* 157, 171.

- ii. Despite their importance, not all SSOs have specific deadlines for fulfilling the disclosure duty and regulating the consequences of non-disclosure.⁷¹⁸ Again, it is rare for SSOs to require SEP owners to update their declarations if there is any material change regarding declared SEPs.⁷¹⁹
- iii. There is no IPR policy that is clear about the scope of the FRAND commitment (i.e. whether the initial licensing offer should be FRAND, whether parties should engage in FRAND negotiations or whether it is sufficient to have final terms that are FRAND) and FRAND licensing terms.⁷²⁰ Most of the SSOs do not provide any guidance in terms of the FRAND royalty rate calculation.⁷²¹
- iv. SSOs have responded to high-profile SEP disputes differently in terms of their disclosure and licensing provisions. Some have expanded their disclosure duty while others have maintained the status quo. Also, some of them have introduced more rigid licensing provisions whereas others either preferred not to change their rules at all or increased their ambiguity.⁷²²
- v. There is only one SSO that restricts SEP owners' right to seek injunctive relief clearly and provides that only where certain conditions are satisfied can SEP owners request an injunction for the infringement of their SEPs.⁷²³

IPR policies try to balance the stakeholders' interests and, in general, clear and complete IPR policies that respect the members' different business models could contribute to the more efficient development of more technologically advanced standards.⁷²⁴ Although stricter IPR policy provisions might discourage certain groups from participating in standardisation, in the long run, they could promote economic efficiency and consumer welfare.⁷²⁵ Indeed, they are one of the main reasons why entities are willing to participate

⁷¹⁸ Richard Li and Richard Li-dar Wang, 'Reforming and Specifying Intellectual Property Rights Policies of Standard-Setting Organisations: Towards Fair and Efficient Patent Licensing and Dispute Resolution' (2017) U. Ill. J.L. Tech. & Pol'y 1, 42-43.

⁷¹⁹ *ibid* 43.

⁷²⁰ *ibid* 44; Tsai and Wright, 'Standard Setting, Intellectual Property Rights, and the Role of Antitrust in Regulating Incomplete Contracts' (n 717) 170.

⁷²¹ Li and Wang (n 718) 44.

⁷²² Tsai and Wright, 'Standard Setting, Intellectual Property Rights, and the Role of Antitrust in Regulating Incomplete Contracts' (n 717) 175; Tsai and Wright, 'Standard Setting, Intellectual Property Rights, and the Role of Antitrust in Regulating Incomplete Contracts' (n 717) 181: They argued that antitrust should not interfere with standardisation unless there is concrete evidence that these changes do not provide sufficient protection given that SSOs change their IPR policies to minimise the patent hold-up risk.

⁷²³ Li and Wang (n 718) 43.

⁷²⁴ Teece and Sherry (n 77) 1931, 1945-1970; Joanna Tsai and Joshua D. Wright, 'Standard Setting, Intellectual Property Rights, and the Role of Antitrust in Regulating Incomplete Contracts' (2015) 80 *Antitrust L.J.* 157; Kraig A Jakobsen, 'Revisiting Standard-Setting Organisations' Patent Policies' (2004) 3 *Nw. J. Tech. & Intell. Prop.* 43, 49; The Expert Panel for the Review of the European Standardisation System, 'Standardisation for a competitive and innovative Europe: a vision for 2020' [2010] <<http://www.anec.eu/attachments/Definitive%20EXPRESS%20report.pdf>> accessed 29 January 2021, 18.

⁷²⁵ Joseph Farrell et al, 'Standard Setting, Patents, and Holdup' (2007) 74 *Antitrust L.J.* 603, 610; Teece and Sherry (n 77) 1972, 1988.

in standard-setting.⁷²⁶ IPR policies enabling competition, facilitating innovation, and ensuring transparency and accessibility of standardisation, are the most efficient solution for standardisation complications given that they could be adapted to the nature of different sectors and stakeholders' needs.⁷²⁷

Even though the enforceability of IPR policies is limited (i.e. only enforceable against the relevant SSO's members), and it is not clear how these provisions will be enforced, SEP cases not only prompted some SSOs to revise their IPR policies, but also significantly changed the approaches towards IPR policies.⁷²⁸ Tsilas, who advocates the revision of IPR policies to provide more certainty and balance the interests of different stakeholders while acknowledging that there is no one-size-fits-all model, explains how the approach towards IPR policies has significantly changed, particularly following the *Rambus* cases, as follows:⁷²⁹

[T]he *Rambus* case highlights the critical importance of SDOs' [i.e. SSOs] establishing clear IPR policies that provide guidance on what, when, how, and to whom SDO members must disclose patent information. The case also points out that SDOs must educate their participating members so the members understand their duties under these policies. ... [T]he unclear use of key words in an organisation's IPR policy can make the difference between millions of dollars in liability ... Moreover, the clarity of an IPR policy's language may make the difference between a controversy-free standards specification ... and a final specification burdened by potential patent infringement claims and undetermined royalties.

In particular, SDOs should revisit fundamental questions about how to establish an optimal patent disclosure policy that will ..., promote broad participation in the SDO, minimise any attempts to game the system, and ensure widespread adoption of the SDO's standards.⁷³⁰

Having all the stakeholders on the same page about the status and enforceability of IPR policies is absolutely crucial and complements having well-drafted provisions striking the right balance between the stakeholders' interests without causing any antitrust concerns.⁷³¹ Requiring members to sign these policies when joining SSOs and upon their

⁷²⁶ Michael J Schallop, 'The IPR Paradox: Leveraging Intellectual Property Rights to Encourage Interoperability in the Network Computing Age' (2000) 28 AIPLA Q.J. 195, 214.

⁷²⁷ Schellingerhout, 'Standard-setting from a competition law perspective' (n 462) 9; Teece and Sherry (n 77) 1982, 1987.

⁷²⁸ Mark A Lemley, 'Standardising Government Standard-Setting Policy for Electronic Commerce' (1999) 14 Berkeley Tech. L.J. 745, 752-753; Nicos L Tsilas, 'Toward Greater Clarity and Consistency in Patent Disclosure Policies in a Post-Rambus World' (2004) 17 Harv. J.L. & Tech. 475, 477.

⁷²⁹ Tsilas (n 728) 477, 494-497.

⁷³⁰ *ibid* 494.

⁷³¹ Lemley, 'Intellectual Property Rights and Standard-Setting Organizations' (n 1) 1934: Lemley stated that the efficiency of IPR policies depends on how they are designed, implemented and enforced; Lemley, 'Intellectual Property Rights and Standard-Setting Organizations' (n 1) 1902-1922: Lemley listed breach of contract, equitable estoppel (i.e. estopped from enforcing patent rights), implied license, antitrust liability and fraud as mechanisms used to enforce IPR policies; Teece and Sherry (n 77) 1970.

revision, as well as reminding them about IPR policies and its relevant provisions periodically, could make it easier to enforce IPR policies in practice.⁷³² SSOs could reinforce the legitimacy of their IPR policies by articulating their policy goals explicitly in their policies.⁷³³

Courts treat the SEP owners' obligations defined in IPR policies as binding.⁷³⁴ Thus, if SSOs require FRAND licensing, courts could impose remedies on SEP owners on the ground of breaching an explicit duty.⁷³⁵ Also, violation of IPR policies and antitrust liability should be considered individually as the former protects the interests of potential licensees while the latter provides consumer protection.⁷³⁶ Hence, entities cannot avoid antitrust liability by complying with IPR policies.⁷³⁷

SSOs should keep their IPR policies under review and adjust them if necessary.⁷³⁸ However, whilst doing so, the antitrust implications of any IPR policy change should also be considered. Indeed, some SSOs are unwilling to clarify the meaning of FRAND due to antitrust concerns.⁷³⁹ Also, SSOs could face antitrust liability as a result of imposing and enforcing their IPR policies (e.g. an SSO's involvement in licensing negotiations might be seen as a buyer cartel).⁷⁴⁰ While SSOs should take responsibility to minimise/eliminate SEP licensing issues, enforcement agencies should take necessary actions (e.g. clarifying antitrust standards applied to different licensing requirements) to relieve SSOs' antitrust

⁷³² Tsilas (n 728) 519-520; Jakobsen (n 724) 54; Tsilas (n 728) 520-52; Lemley, 'Intellectual Property Rights and Standard-Setting Organizations' (n 1) 1960.

⁷³³ National Research Council, *Patent Challenges for Standard-Setting in the Global Economy: Lessons from International and Communications Technology* (The National Academies Press 2013) 37.

⁷³⁴ Kesan and Hayes (n 715) 252.

⁷³⁵ James C De Vellis, 'Patenting Industry Standards: Balancing the Rights of Patent Holders with the Need for Industry-Wide Standards' (2003) 31 *AIPLA Q.J.* 301, 347.

⁷³⁶ Farrell (n 725) 647.

⁷³⁷ *ibid* 658.

⁷³⁸ The Expert Panel for the Review of the European Standardisation System (n 724) 18.

⁷³⁹ Contreras, 'Fixing FRAND: A Pseudo-Pool Approach to Standards-based Patent Licensing' (n 10) 51; David S Evans and Anne Layne-Farrar, 'Software Patents and Open Source: The Battle Over Intellectual Property Rights' (2004) 9 *Va. J.L. & Tech.* 10, 40: They argued that SSOs have antitrust concerns and are unwilling to clarify what constitutes reasonable. However, the procompetitive effects of determining reasonable royalty rates *ex ante* are worth taking the risk.

⁷⁴⁰ Lemley, 'Standardising Government Standard-Setting Policy for Electronic Commerce' (n 728) 753; Robert A Skitol, 'Concerted Buying Power: Its Potential for Addressing the Patent Holdup Problem in Standard Setting' (2005) 72 *Antitrust L.J.* 727, 734-735: Lemley argued that the distinction should be made between general buyer power and buyers' market power, enabling them to reduce market output. The former can facilitate purchasing efficiencies and be perfectly competitive, and that *ex ante* disclosure of FRAND licensing terms in the standard setting should be considered general buyer power.

concerns.⁷⁴¹ SSOs that prefer not to take necessary measures to deal with anticompetitive conduct in the SEP licensing framework may also be held accountable for this conduct.⁷⁴²

4 PROPOSALS FOR REFORMING IPR POLICIES

4.1. Essentiality

The first step to assess essentiality of a patent is to define *essentiality* and, although it is possible to find the answer to this question in IPR policies, they are not always accurate and clear and there is a difference between different policies.⁷⁴³ For example, some IPR policies require the disclosure of patents which read on to or cover standards whereas some others require disclosure of any patent that is related to standards.⁷⁴⁴ The essentiality definition could also be used by SEP owners to shortcut the finding of infringement by claiming that if a patent is essential to a standard, i.e. SEP, and a product complies with this standard, the standard-compliant product must infringe the SEP.⁷⁴⁵

Classifying SEPs could help SSOs clarify the meaning of their SEP concept by simply determining which of these classes are covered by their definition.⁷⁴⁶ SEPs might be classified under two main groups: technically essential and commercially essential patents.⁷⁴⁷ Then, technically essential patents could be further divided into two subgroups: (i) core essential patents that are related to a core function of the standard; and (ii) non-core essential patents that are related to optional functions of the standard.⁷⁴⁸ Commercially essential patents could be defined as any SEPs which are not technically essential but which are commercially desired (e.g. having a function making standard-complaint products more attractive for customers).⁷⁴⁹

⁷⁴¹ Contreras, 'Fixing FRAND: A Pseudo-Pool Approach to Standards-based Patent Licensing' (n 10) 93-94: Contreras pointed out that Congress can amend the Standards Development Organisation Advancement Act of 2004 to provide antitrust immunity to SSOs when the pseudo-pool approach is adopted and practised; Jorge L Contreras, 'From Private Ordering to Public Law: The Legal Frameworks Governing Standards-Essential Patents' (2017) 30 Harv. J.L. & Tech. 211: They characterised standardisation as a private arrangement with public implications. Therefore, they argued that disputes regarding members' conduct could be initially resolved by SSOs' private arrangements (i.e. SSO policies in general, informal norms, understanding and practices) more effectively and equitably; Alan Devlin, 'Standard-Setting and the Failure of Price Competition' (2009) 65 N.Y.U. Ann. Surv. Am. L. 217, 261-262.

⁷⁴² Skitol, 'Concerted Buying Power: Its Potential for Addressing the Patent Holdup Problem in Standard Setting' (n 740) 738, 743; Liguozhang, 'How IPR policies of telecommunication standard-setting organisations can effectively address the patent ambush problem' (2010) 41(3) IIC 380, 394.

⁷⁴³ Li and Wang (n 718) 31, 42; Bekkers et al, 'Pilot Study for essentiality Assessment of Standard Essential Patents' (n 600) 111-112.

⁷⁴⁴ Michael G Cowie and Joseph P Lavelle, 'Patents Covering Industry Standards: The Risks to Enforceability due to Conduct Before Standard-Setting Organizations' (2002) 30 AIPLA Q.J. 95, 135-136.

⁷⁴⁵ Jorge L Contreras, 'Essentiality and Standard-Essential Patents' in Jorge L Contreras (eds), *The Cambridge Handbook of Technical Standardization Law* (Cambridge University Press 2017), 225.

⁷⁴⁶ Kesan and Hayes (n 715) 283.

⁷⁴⁷ *ibid* 241.

⁷⁴⁸ *ibid*.

⁷⁴⁹ *ibid* 241-242.

Besides defining the meaning of SEP/essentiality, ensuring that declared patents are truly essential is crucial to overcoming one of the chronic symptoms of standardisation, over-declaration, which can lead to unreasonably high royalties. Over-declaration is a severe phenomenon, and its extent in standardisation has been illustrated by different studies concluding that only 20-30% of declared patent families are actually essential.⁷⁵⁰ For some, an SSOs' SEP declaration process aiming to advance standard development, rather than facilitating SEP licensing, is the cause of over-declaration.⁷⁵¹

Requiring SEP owners to provide well-structured information on the specific claims of patents that are essential and matching these with the relevant parts of the standard could help to reduce the SEP inflation.⁷⁵² Allowing any interested party to challenge the inclusion of a technology into a standard on the ground that it is not significantly superior to alternatives could also reduce number of SEPs.⁷⁵³ Besides, SEP owners could update their SEP disclosures if declared patents are not essential or enforceable (e.g. expired) anymore either after the publication of the final standard or the change of the patent's legal status (e.g. granted, invalidated, expired).⁷⁵⁴ Before introducing the update requirement, SSOs should also consider the additional costs that will probably be incurred by SEP owners and make a cost-benefit analysis.⁷⁵⁵ Relieving SEP owners from the update requirement if they opt to make a royalty-free licensing commitment would create an alternative course for SEP owners and perhaps make it easier for SSOs to justify the requirement despite the additional costs.⁷⁵⁶

Requiring or incentivising making a specific declaration for SEPs would limit the use of blanket disclosures which could be used to cover up low-quality SEPs.⁷⁵⁷ On the other hand, it is a fact that SEP owners do not always know about their specific SEPs and blanket disclosures ensure that all SEPs are subject to FRAND commitments regardless of when the SEP owner detects them.⁷⁵⁸ Thus, rather than banning blanket disclosures all together,

⁷⁵⁰ Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 147.

⁷⁵¹ SEPs Expert Group (n 38) 46.

⁷⁵² Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 144-146.

⁷⁵³ *ibid* 199-200.

⁷⁵⁴ *ibid* 115-116, 141, 143.

⁷⁵⁵ *ibid* 142; *ibid* 142: The estimated cost of updating an initial disclosure is around € 300 per patent.

⁷⁵⁶ *ibid* 143.

⁷⁵⁷ SEPs Expert Group (n 38) 50; Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 154, 156, 158-159.

⁷⁵⁸ Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 159; Commission, 'Summary Report of the Public Consultation on Patents and Standards - A Modern Framework for Standardisation involving Intellectual Property Rights' [2015], 6.

it might be preferable to have a hybrid regime.⁷⁵⁹ Negative *ex ante* declarations, where all SSO members initially make a blanket declaration and need to license these on FRAND terms unless they make a declaration to keep a specific patent outside this declaration, can be a viable option.⁷⁶⁰ Under this model, once there is an agreement on a standard, patent owners still need to specify their SEPs and link them to the relevant aspects of the standard within a reasonable period (i.e. *ex post* specific declaration).⁷⁶¹

Essentiality checks conducted by independent third parties are seen as a most promising solution to over-declaration.⁷⁶² This can be done in different ways; for instance, there can be routine essentiality checks or there can be a one-time check after the finalisation of standards.⁷⁶³ Rather than checking the essentiality of all the SEPs in portfolio, checking the essentiality of a random sample or one patent from a patent family registered in a major market (e.g. EU, US, China and Japan) could be an option to keep the cost of the checks at a reasonable level.⁷⁶⁴ In general, it is preferable to have a self-financing essentiality assessment system which would be funded by all the stakeholders benefiting from it.⁷⁶⁵ It is worth noting that these checks will not aim to assess the essentiality of

⁷⁵⁹ Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 159-160; Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 157: They found out that most members are not totally against making specific disclosures given that 66% make specific disclosures regularly while 8% almost always make specific disclosures.

⁷⁶⁰ Pierre Régibeau et al, 'Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing' [2016] <<https://ec.europa.eu/docsroom/documents/20506/attachments/1/translations/en/renditions/pdf>> accessed 9 February 2021, 82-83; Johan Verbruggen and Anna Lörincz, 'Patents and Technical Standards' (2002) 33(2) IIC 125, 137-138: Régibeau et al mentioned that in 1993, ETSI tried to introduce a licensing-by-default system that would require automatic SEP licensing on FRAND terms unless their owners notified ETSI that they intended to withhold the licence within 180 days after the standard was put into the Technical Assembly's working programme. SEP owners, particularly the US companies, were seriously concerned about this proposal, and indeed, one of the US-based trade unions filed a formal complaint with the Commission. ETSI abandoned this proposal before the Commission decided on this complaint and implemented a licensing policy similar to its current policy (i.e. following the disclosure of potential SEPs, their owners have discretion in giving a FRAND undertaking).

⁷⁶¹ Régibeau et al, 'Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing' (n 760) 64 and 86; Régibeau et al, 'Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing' (n 760) 66: They suggested that a longer period should be given if requirements are extensive (e.g. linking SEP portfolios and standards). Also, if there is a total royalty cap, SEP owners must be required to make their specific declarations until a certain date to get a share from this cap. There should be a precise time limit for making such a declaration to allow implementers to consider the cost of implementing the standard.

⁷⁶² Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 147-149; Timo Ruikka, "'FRAND" undertakings in standardisation--a business perspective' (2008) 43 *les Nouvelles* 188, 195; Régibeau et al, 'Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing' (n 760) 61, 86; SEPs Expert Group (n 38) 57, 63-64; Tim Pohlmann and Knut Blind, 'Landscaping study on standard essential patents (SEPs)' [2016] <https://www.iplytics.com/wp-content/uploads/2017/04/Pohlmann_IPlytics_2017_EU-report_landscaping-SEPs.pdf> accessed 13 February 2021, 49, 56-57.

⁷⁶³ Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 148-149.

⁷⁶⁴ Régibeau et al, 'Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing' (n 760) 60; SEPs Expert Group (n 38) 59-60,65; Michael Fröhlich, Director European and International Legal Affairs, EPO (panellist), Panel discussion: How to increase patent quality? (Transparency: How to clarify possible SEP exposure upfront?, Webinar, February 2021): Fröhlich pointed out that generally, the first patents granted in patent families are not European Patents.

⁷⁶⁵ Bekkers et al, 'Pilot Study for essentiality Assessment of Standard Essential Patents' (n 600) 114-115, 121.

each patent infallibly; instead, they will be an improvement to the current self-assessment system.⁷⁶⁶ The outcome of essentiality checks should not be deemed final; parties should be able to challenge them before competent courts.⁷⁶⁷ However, SSOs should be cautious about introducing independent essentiality checks whilst still accepting blanket disclosures which could be used to circumvent the essentiality checks requirement.⁷⁶⁸

Essentiality checks could also be used to estimate the value of SEP portfolios and to determine the share that SEP owners will get from the total royalties or the total royalty cap.⁷⁶⁹ This would incentivise trimming down the declaration of non-essential patents as much as possible to increase the quality of their portfolios and, consequently, get a bigger share from total royalties.⁷⁷⁰ SEP owners would still be free to get higher royalties than the share determined according to the estimated value of their portfolios if they can convince potential licensees that the estimate does not reflect the strength of their SEPs (i.e. more SEPs in the portfolio are truly essential).⁷⁷¹

It seems that patent offices are the most suitable candidate for undertaking the responsibility of independent essentiality checks considering how amending patents (granted or applications) could affect their essentiality and the efficiency of having patent examiners, who already examined these patents for their patentability, on board.⁷⁷² Also, it would be possible to access the information as to the legal status of patents and their essentiality by using the same source if patent offices maintain SEP databases.⁷⁷³ Overall, SSOs and patent offices should work on enhancing their cooperation to improve the quality of standards.⁷⁷⁴

⁷⁶⁶ Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 148; Pohlmann and Blind, 'Landscaping study on standard essential patents (SEPs)' (n 762) 56.

⁷⁶⁷ Ruiikka (n 762) 195.

⁷⁶⁸ Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 151.

⁷⁶⁹ Régibeau et al, 'Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing' (n 760) 60-61; Régibeau et al, 'Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing' (n 760) 63-64, 87-88.

⁷⁷⁰ *ibid* 64.

⁷⁷¹ *ibid* 61.

⁷⁷² *ibid* 62; Pohlmann and Blind, 'Landscaping study on standard essential patents (SEPs)' (n 762) 51-52, 57-58; Bekkers et al, 'Pilot Study for essentiality Assessment of Standard Essential Patents' (n 600) 116, 121; Bekkers et al, 'Pilot Study for essentiality Assessment of Standard Essential Patents' (n 600) 51-54: They stated that the Japan Patent Office's Hantei-E, part of the Hantei advisory opinion system and can assess essentiality of SEPs since 2018, has not been used as of March 2020.

⁷⁷³ Régibeau et al, 'Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing' (n 760) 66-68.

⁷⁷⁴ The Expert Panel for the Review of the European Standardisation System (n 724) 35.

4.2. Disclosure

Discussions about SEP-related disclosure could be grouped under two main headings: disclosure of potential SEPs and *ex ante* disclosure of licensing terms.

There is some evidence that members are concerned: (i) about the costs associated with the SEP disclosure because of the patent portfolios' extent and complexity; (ii) that they might tip off their competitors about their current and future technological strategies by disclosing their patents (applications); and (iii) that early disclosure might affect the return that they could get for their technologies and increase technology circumvention.⁷⁷⁵ On the other hand, there is also data showing that expansive disclosure duty does not affect entities' incentive to participate in standardisation as they are commercially benefitting from it.⁷⁷⁶ When the VITA, IEEE and IETF's data from 2004 to 2010 is analysed, it was seen that the effect of *ex ante* disclosure on standard development is positive: standardisation activity increased, the change did not slow down standardisation or cause the withdrawal of members from the SSOs.⁷⁷⁷

In general, there is a consensus that patent owners should disclose their potential SEPs as soon as possible to enable informed decision-making while there are still alternative technologies and before potential licensees incur any sunk cost.⁷⁷⁸ However, the fact that this obligation mainly relies on the representatives' knowledge is a practical limitation, and that IPR policies could only be enforced against members, constitutes a limitation in terms of its enforcement.⁷⁷⁹ Getting an upfront FRAND commitment from members when they first sign up for the SSO, requiring patent owners to license the SEPs that they have not disclosed on FRAND terms, or introducing remedies such as compulsory licensing and patent misuse-based nonenforcement could also be considered to overcome the non-

⁷⁷⁵ Benjamin Chiao et al, 'The Rules of Standard Setting Organisations: An Empirical Analysis' <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=664643> accessed 2 April 2019, 5-6.

⁷⁷⁶ Janice M Mueller, 'Patenting Industry Standards' (2001) 34 J. Marshall L. Rev. 897, 933; For a contrary opinion see Valerio Torti, 'IPRs, competition and standard setting: in search of a model to address holdup' (2012) 33(9) E.C.L.R. 387, 394.

⁷⁷⁷ Jorge L Contreras, 'An Empirical Study of the Effects of Ex Ante Licensing Disclosure Policies on the Development of Voluntary Technical Standards' (2011) <https://www.nist.gov/sites/default/files/nistgcr_11_934_empiricalstudyofeffectsexantelicensing2011_0.pdf> accessed 29 June 2019, 49-50; Jorge L Contreras, 'Technical Standards and Standard-Setting Organisations: A Survey of the Empirical, Legal and Economics Literature' (2017) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2900540> accessed 13 June 2022, 9-10: They pointed out that Motorola objected the VITA's IPR policy change and withdrew from it. Also, the opponents of the change campaigned for the revocation of the VITA's ANSI accreditation, but this attempt was unsuccessful.

⁷⁷⁸ Farrell (n 725) 629; Robert M Webb, 'There is a Better Way: It's Time to Overhaul the Model for Participation in Private Standard-Setting' (2004) 12 J. Intell. Prop. L. 163, 215-219: Webb proposed to abandon the disclosure duty as it poses several business and legal risks.

⁷⁷⁹ Schallop (n 726) 284; Farrell (n 725) 630.

disclosure issue.⁷⁸⁰ Alternatively, a stricter disclosure regime could be adopted to require members to disclose their potential SEPs regardless of their representatives' knowledge and actual participation in working groups where standards are discussed technically.⁷⁸¹ However, high costs associated with conducting such a search might be prohibitive.⁷⁸² Besides, routine reminders about the importance of disclosing and declaring their SEPs in good faith should be made, and potential SEP owners should be warned about the consequences of intentional non-disclosure.⁷⁸³

Rather than relying on disclosures of SEPs, SEP landscaping could be used to identify all the proprietary technologies covered by standards.⁷⁸⁴ This would be particularly useful for identifying potential SEPs of non-members and members who are reluctant to give a FRAND commitment.⁷⁸⁵

Although it seems that early disclosure of potential SEPs is better for standardisation, this is not always the case as both standards and patent applications evolve (for standards until their finalisation and for patents in principle⁷⁸⁶ until their grant).⁷⁸⁷ Indeed, it has been found that around 71% of SEPs are granted after the release of the relevant standards by the EPO, and almost 73% of SEPs declared at ETSI were granted after the standards' release.⁷⁸⁸

⁷⁸⁰ National Research Council (n 733) 80; Daniel G Swanson and William J Baumol, 'Reasonable and Non-Discriminatory (RAND) Royalties, Standards Selection, and Control of Market Power' (2005) 73 *Antitrust L.J.* 1, 29, 53-54; Li and Wang (n 718) 34; Mueller (n 776) 902, 920, 943; Anne Layne-Farrar, 'How to Avoid Antitrust Trouble in Standard Setting: A Practical Approach' (2009) 23-SUM *Antitrust* 42, 43; Evans and Layne-Farrar, 'Software Patents and Open Source: The Battle Over Intellectual Property Rights' (n 739) 41; Daryl Lim, 'Misconduct in Standard Setting: The Case for Patent Misuse' (2011) 51 *IDEA* 559, 567.

⁷⁸¹ Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 160-161.

⁷⁸² *ibid* 162.

⁷⁸³ Li and Wang (n 718) 34; For a sample model of disclosure provisions aiming to strike the right balance between the stakeholders' interests see Nicos L Tsilas, 'Toward Greater Clarity and Consistency in Patent Disclosure Policies in a Post-Rambus World' (2004) 17 *Harv. J.L. & Tech.* 475.

⁷⁸⁴ Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 135.

⁷⁸⁵ *ibid* 136.

⁷⁸⁶ The possibility of post-grant oppositions before the EPO and similar practices allow the amendments of patent claims post-grant in different jurisdictions.

⁷⁸⁷ Anne Layne-Farrar, 'Antitrust and Intellectual Property Rights: Assessing the Link Between Standards and Market Power' (2007) 21-SUM *Antitrust* 42, 45; Cowie (n 744) 136; Commission, 'Summary Report of the Public Consultation on Patents and Standards - A Modern Framework for Standardisation involving Intellectual Property Rights' (n 758) 6.

⁷⁸⁸ Pohlmann and Blind, 'Landscaping study on standard essential patents (SEPs)' (n 762) 44-45; Rudi Bekkers et al, 'Landscape Study of Potentially Essential Patents Disclosed to ETSI' [2020] <<https://publications.jrc.ec.europa.eu/repository/handle/JRC121411>> accessed 19 February 2021, 38; Bekkers et al determined that 73% of the SEPs disclosed to ETSI before the grant was granted subsequently. This number rises to 87% if only the patent applications made before 2015 are considered, given that the average duration of the prosecution process of several patent offices is three years.

There is support for *ex ante* disclosure of SEP licensing terms, including royalty rates, by patent owners to enhance the quality of the decision-making as to potential SEPs, increase the prospect of having procompetitive standards and reduce transaction costs.⁷⁸⁹

Contrary to the common belief, *ex ante* disclosure of licensing terms would increase participation in standardisation.⁷⁹⁰ The idea behind *ex ante* disclosure is having more information about licensing conditions, and it has different versions such as disclosing precise licensing terms, disclosing the most restrictive licensing terms and specifying cash royalty rate.⁷⁹¹ Setting a total royalty cap for each standard by members with a significant number of potential SEPs could also be a less costly but still viable alternative to declaring maximum royalty rates for each SEP portfolio if this could be done without giving rise to joint price-setting concerns.⁷⁹²

Despite findings that *ex ante* disclosure of licensing terms does not have any adverse effects on standardisation and members' operation, SSOs are not willing to adopt this considering SEP owners' reluctance to have price competition with other alternative technologies, inconvenience of determining royalty rates instead of making FRAND commitments, and general concerns as to increasing the number of SEPs (i.e. *sleeping dog* rationale).⁷⁹³ Although ETSI and IEEE introduced voluntary *ex ante* disclosure of

⁷⁸⁹ Mark A Lemley, 'Ten Things to do about patent Holdup of Standards (and One not to)' (2007) 48 B.C.L. Rev. 149, 158; Contreras, 'Fixing FRAND: A Pseudo-Pool Approach to Standards-based Patent Licensing' (n 10) 66; Skitol, 'Concerted Buying Power: Its Potential for Addressing the Patent Holdup Problem in Standard Setting' (n 740) 735; Régibeau et al, 'Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing' (n 760) 30.

⁷⁹⁰ Gil Ohana et al, 'Disclosure and negotiation of licensing terms prior to adoption of industry standards: preventing another patent ambush?' (2003) 24(12) E.C.L.R. 644, 651; Ohana et al (n 790) 651: They stated that in two standardisation projects, the DVB Copy Protection Commercial Module and the SDMI Project, the *ex ante* disclosure of licensing terms was one of the factors incentivising participation, and there is no evidence that the model discouraged participation in the former.

⁷⁹¹ Layne-Farrar, 'How to Avoid Antitrust Trouble in Standard Setting: A Practical Approach' (n 780) 44; Devlin (n 741) 257; Kai-Uwe Kühn et al, 'Standard Setting Organisations can Help Solve the Standard Essential Patents Licensing Problem' <<https://www.competitionpolicyinternational.com/assets/Free/ScottMortonetalMar-13Special.pdf>> accessed 4 April 2019, 4; John J Kelly and Daniel I Prywes, 'A Safety Zone for the Ex Ante Communication of Licensing Terms at Standard-Setting Organisations' (2006) 5-MAR Antitrust Source 1, 8; Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 137; Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 139; Régibeau et al, 'Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing' (n 760) 28, 84; Schellingerhout, 'Standard-setting from a competition law perspective' (n 462) 8; Torti, 'IPRs, competition and standard setting: in search of a model to address holdup' (n 776) 389-390.

⁷⁹² Régibeau et al, 'Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing' (n 760) 30, 43-46, 84-85.

⁷⁹³ Jorge L Contreras, 'Technical Standards and Ex Ante Disclosure: Results and Analysis of an Empirical Study' (2013) 53 Jurimetrics J. 163, 205-208.

licensing terms, the model has been unsuccessful because SEP holders did not make significant use of it.⁷⁹⁴

Besides introducing the requirement of *ex ante* disclosure of licensing terms, patent owners need to be incentivised to comply with this obligation; limiting their right to royalty with a very low default rate in case of non-disclosure or estopping them from enforcing their patents might create this incentive.⁷⁹⁵ Also, they may be required to provide further information to be able to assess whether their licensing terms are FRAND-compliant.⁷⁹⁶ However, overall, it seems that, compared to the FRAND commitment, it would be easier to enforce the most restrictive licensing terms before courts and competition authorities.⁷⁹⁷

As anything increasing the interaction between competitors might affect the market(s), SSO should be cautious about antitrust implications of an *ex ante* disclosure of licensing terms requirement. Banning concerted *ex ante* discussion of licensing terms, introducing safeguards against price-fixing or referring to ADR mechanisms to check the compatibility of the licensing terms with FRAND could help to alleviate antitrust concerns.⁷⁹⁸ Also, it may be possible to argue that antitrust should allow *ex ante* disclosure of licensing terms and even their collective negotiations in SSOs, given that their procompetitive effects would outweigh their anticompetitive effects.⁷⁹⁹

4.3. FRAND Commitment

Compared to alternatives such as royalty-free licensing, requiring FRAND commitments seems to balance the interests of different stakeholders better and facilitate the inclusion

⁷⁹⁴ Baron et al, 'Making the Rules: The Governance of Standard Development Organisations and their Policies on Intellectual Property Rights' (n 699) 159.

⁷⁹⁵ Lemley, 'Ten Things to do about patent Holdup of Standards (and One not to)' (n 789) 159; Justin (Gus) Hurwitz, 'The Value of Patents in Industry Standards: Avoiding License Arbitrage with Voluntary Rules' (2008) 36 AIPLA Q.J. 1, 36-37.

⁷⁹⁶ Jorge L Contreras, 'A Brief History of FRAND: Analyzing Current Debates in Standard Setting and Antitrust Through a Historical Lens' (2015) 80 Antitrust L.J. 39.

⁷⁹⁷ Torti, 'IPRs, competition and standard setting: in search of a model to address holdup' (n 776) 391.

⁷⁹⁸ Skitol, 'Concerted Buying Power: Its Potential for Addressing the Patent Holdup Problem in Standard Setting' (n 740) 739, 742; Devlin (n 741) 259; Grazyna Piesiewicz and Ruben Schellingerhout, 'Intellectual property rights in standard setting from a competition law perspective' (2007) 3 EC CPN 36; Torti, 'IPRs, competition and standard setting: in search of a model to address holdup' (n 776) 390-391.

⁷⁹⁹ Mark A Lemley and Carl Shapiro, 'Patent Holdup and Royalty Stacking' (2007) 85 Tex. L. Rev. 1191, 2043-2044; Piesiewicz and Schellingerhout, 'Intellectual property rights in standard setting from a competition law perspective' (n 798): They argued that standardisation's potential anticompetitive effects are generally outweighed by its procompetitive effects when a technology incorporated into a standard is selected transparently and fairly.

of best available technologies into standards.⁸⁰⁰ Indeed, it may not be possible to have *ex ante* licensing negotiations without FRAND commitments given that generally there is a lack of essential information, such as the relevant market for the standard-compliant products and the demand for them, before the adoption of the standard and FRAND could offset these uncertainties to a certain extent.⁸⁰¹ Besides, FRAND encourages patent owners to participate in standardisation, incentivises innovation, and eliminates the threat of patent infringement actions as well as unreasonably high royalties.⁸⁰²

Although, in general, SSOs require patent owners to give a FRAND commitment specific for the SEP that they have declared, obtaining an upfront FRAND commitment from all the members while joining the SSO is another option.⁸⁰³

Unfortunately, only requiring FRAND commitment is hardly sufficient to overcome SEP licensing issues given its inherent vagueness.⁸⁰⁴ Thus, the provision of further guidance on FRAND commitment is needed. Perhaps guidance on the following points could be helpful:

- i. FRAND commitments are effective and binding obligations on SEP owners, and they are irrevocable.⁸⁰⁵ They apply to granted patents, patent applications and even to the patent applications filed within one year after the finalisation of a standard.⁸⁰⁶ Where a SSO requires a blanket FRAND commitment, the commitment should also apply to SEPs acquired after the finalisation of standards (i.e. after-acquired patents).⁸⁰⁷ It should be clarified that potential licensees can request to license all or some FRAND-encumbered SEPs related to a standard and SEP owners cannot tie SEPs to non-SEPs for unrelated standards.⁸⁰⁸

⁸⁰⁰ De Vellis (n 735) 341-346, 348-351; Anne Layne-Farrar et al, 'Preventing Patent Hold Up: An Economic Assessment of Ex Ante Licensing Negotiations in Standard Setting' (2009) 37 AIPLA Q.J. 455, 473; For the comparison of royalty-free and FRAND licensing see De Vellis (n 735) 336-350.

⁸⁰¹ Theresa R Stadheim, 'Rambus, N-Data, and the FTC: Creating Efficient Incentives in Patent Holders and Optimising Consumer Welfare in Standard-Setting Organisations' (2009) 19 Alb. L.J. Sci. & Tech. 483, 512-513.

⁸⁰² Contreras, 'Fixing FRAND: A Pseudo-Pool Approach to Standards-based Patent Licensing' (n 10) 62; De Vellis (n 735) 343-346, 349: Vellis stated that large undertakings, small ones, and even research institutions can recoup their R&D investments if they can license their SEPs on FRAND terms.

⁸⁰³ Mark A Lemley, 'Ten Things to do about patent Holdup of Standards (and One not to)' (n 789) 157.

⁸⁰⁴ Lim, 'Misconduct in Standard Setting: The Case for Patent Misuse' (n 780) 571-572.

⁸⁰⁵ Ruikka (n 762) 194; SEPs Expert Group (n 38) 95.

⁸⁰⁶ Mark A Lemley and Carl Shapiro, 'A Simple Approach to Setting Reasonable Royalties for Standard Essential Patents' (2013) 28 Berkeley Tech. L.J. 1135, 155-156; Mark A Lemley, 'Ten Things to do about patent Holdup of Standards (and One not to)' (n 789) 156.

⁸⁰⁷ Kesan and Hayes (n 715) 283, 243-245.

⁸⁰⁸ National Research Council (n 733) 70: SSOs should not allow SEP owners to license their SEPs on the condition of having a grantback licence for unrelated SEPs and non-SEPs.

- ii. The FRAND commitment will pass onto assignees so it cannot be circumvented through patent assignments.⁸⁰⁹ To be able to apply this rule effectively, SSOs should recognise non-members' FRAND commitments.⁸¹⁰ The License-of-Right system, which allows patent owners/applicants to commit to licensing their patents to anyone interested at reasonable rates at patent offices in return for a reduction in renewal fees, can also be used to ensure that FRAND commitments are attached to SEPs regardless of ownership changes as such commitments are linked to patents inseparably.⁸¹¹
- iii. Members could be guided on FRAND compliance by formulating certain statements of principle such as conditions of royalty demands when there is a risk of royalty stacking or conduct that is not FRAND-compliant.⁸¹²
- iv. Stating in IPR policies that member and non-member potential licensees and their consumers are the intended third-party beneficiaries of SEP-related commitments.⁸¹³
- v. Recognising FRAND as a range (rather than a single rate) and its applicability to the whole SEP licensing negotiation process (i.e. FRAND negotiation requirement) so parties should negotiate in good faith to reach FRAND licensing terms.⁸¹⁴ This could prevent infringement actions beginning right after making an alleged FRAND offer.⁸¹⁵ The FRAND negotiation requirement is also in conformity with realities of licensing negotiations as it allows parties to make initial offers that are not FRAND as long as they engage in good-faith negotiations to agree on FRAND terms.⁸¹⁶

⁸⁰⁹ Kesan and Hayes (n 715) 254-256; Lemley and Shapiro, 'A Simple Approach to Setting Reasonable Royalties for Standard Essential Patents' (n 806) 1158-1159; Régibeau et al, 'Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing' (n 760) 71-72; Schellingerhout, 'Standard-setting from a competition law perspective' (n 462) 7-8; Layne-Farrar, 'How to Avoid Antitrust Trouble in Standard Setting: A Practical Approach' (n 780) 46: According to Layne-Farrar, the subsequent owners' business model and strategies should not be ignored altogether, and considering these SSOs can allow reasonable modification of the disclosed licence terms by subsequent SEP owners; Kühn et al (n 791) 4; National Research Council (n 733) 80; Kesan and Hayes (n 715) 283: They stated that even when there is such a requirement, it would be challenging to hold assignees liable for its breach, given that assignors are not the ones agreed to be bound by this rule.

⁸¹⁰ Kesan and Hayes (n 715) 300.

⁸¹¹ Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 192-193; Verbruggen and Lörincz (n 760) 145.

⁸¹² National Research Council (n 733) 69; Pentheroudakis and Baron, 'Licensing Terms of Standard Essential Patents' (n 604) 165.

⁸¹³ National Research Council (n 733) 69-70; Kesan and Hayes (n 715) 281; Jorge L Contreras, 'Enforcing FRAND and Other SDO Licensing Commitments' in Jorge L Contreras (eds), *The Cambridge Handbook of Technical Standardization Law* (Cambridge University Press 2017), 179: Contreras referred to the requirement of determining whether the contracting parties intended to confer third parties the direct benefit of the contract to apply the third-party beneficiary doctrine and the difficulty of establishing such intent where there is no express statement in the contract.

⁸¹⁴ National Research Council (n 733) 69; Kesan and Hayes (n 715) 258-259; Li and Wang (n 718) 36-37; Pentheroudakis and Baron, 'Licensing Terms of Standard Essential Patents' (n 604) 157 and 165; For a contrary opinion (i.e. There can only be one FRAND rate for a set of licensing conditions) see Régibeau et al, 'Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing' (n 760) 71-72.

⁸¹⁵ Cowie (n 744) 149.

⁸¹⁶ Kristen Jakobsen Osenga, 'Ignorance over Innovation: Why Misunderstanding Standard Setting Organisations will Hinder Technological Progress' (2018) 56 U. Louisville L. Rev. 159, 216.

- vi. Potential willing licensees should agree to license their SEPs for the same or related standards to be able to benefit from the FRAND commitment given by another patent owner (reciprocity).⁸¹⁷ FRAND commitments could be suspended where potential licensees refrain from reciprocating.⁸¹⁸
- vii. The FRAND commitment should be discharged where the (potential) licensee does not want to pay FRAND royalty and challenges the validity of the SEP(s) or their essentiality in court.⁸¹⁹

Besides the abovementioned guidance aiming to clarify the general nature of FRAND commitments, scholars have discussed the meaning of fair, reasonable and non-discriminatory to improve the SEP licensing framework.⁸²⁰

The concept of reasonable and, more specifically, its meaning and calculation methods are among the most-discussed SEP-related concepts. Reasonable is directly related to the royalty rate and, naturally, the size of damages that could be awarded in a potential infringement action.⁸²¹ Even though it is difficult to define reasonable, mainly because of the risk of granting excessive market power to SEP owners, having a clear definition could encourage parties to negotiate rather than litigate.⁸²²

Reasonable royalty rates should be based on a hypothetical, arms-length negotiation taking place at the time when the standard is set or when technologies are considered for inclusion into standards.⁸²³ Alternatively, appropriate bases for the royalty calculation

⁸¹⁷ National Research Council (n 733) 70; Lemley and Shapiro, 'A Simple Approach to Setting Reasonable Royalties for Standard Essential Patents' (n 806) 1141, 1142; Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 138.

⁸¹⁸ Lemley and Shapiro, 'A Simple Approach to Setting Reasonable Royalties for Standard Essential Patents' (n 806) 1156-1158.

⁸¹⁹ *ibid* 1162-1163: They stated that it is also possible for the implementer to challenge the validity in court after getting a licence for the SEP(s). Nevertheless, this is not that important, given that the invalidity of some patent(s) will not significantly affect the royalty rate agreed for the whole SEP portfolio. Indeed, where an arbitrator sets the royalty rate, they consider that some patents in the portfolio may be invalid or not essential. SSOs should regulate that FRAND rates set by arbitrators remain in force despite the outcome of the subsequent invalidity claim.

⁸²⁰ For the arguments in favour of not defining FRAND as such to preserve the flexibility required by complex SEP licensing negotiations and avoid the antitrust liability for SSOs see Haris Tsilikas, 'Huawei v. ZTE in context - EU competition policy and collaborative standardisation in wireless telecommunications' (2017) 48(2) IIC 151, 164 and Eric L Stasik, 'The Role of the European Commission in the Development of the ETSI IPR Policy and the Nature of FRAND in Standardisation' in Ashish Bharadwaj et al (eds), *Multi-dimensional Approaches Towards New Technology* (Springer 2018), 80-81.

⁸²¹ Justin (Gus) Hurwitz, 'The Value of Patents in Industry Standards: Avoiding License Arbitrage with Voluntary Rules' (2008) 36 AIPLA Q.J. 1, 35.

⁸²² De Vellis (n 735) 346; Justin (Gus) Hurwitz, 'The Value of Patents in Industry Standards: Avoiding License Arbitrage with Voluntary Rules' (2008) 36 AIPLA Q.J. 1, 35.

⁸²³ Lemley and Shapiro, 'A Simple Approach to Setting Reasonable Royalties for Standard Essential Patents' (n 806) 1147; Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation'

could be found considering other relevant SEPs.⁸²⁴ With reasonable royalties, SEP owners should only be able to get a return for their technical contribution: not standardisation.⁸²⁵

In practice, different approaches can be used to calculate reasonable SEP royalty rates, which are outside the scope of this work. However, it is worth mentioning some general points that can help stakeholders to set reasonable royalties.

The effects of the royalty rate on participation in standardisation, the accessibility of the standard and the reasonableness of the aggregate royalty rate could be considered while determining reasonable royalties.⁸²⁶ SSOs could determine key factors and steps of SEP royalty calculation or, at least, they could provide more guidance as to specific methodologies to calculate FRAND rates.⁸²⁷ Introducing SSO-sponsored auctions which would enable SEP owners to bid for their potential SEPs by disclosing model licence terms may also aid the process of reaching reasonable rates.⁸²⁸ Introducing patent [SEP] pools could also help to set reasonable royalties and prevent royalty stacking.⁸²⁹ It should also be noted that the value of SEPs should not change according to the position of potential licensees in the value chain.⁸³⁰

Comparable licences⁸³¹ in general play an essential role in royalty calculations. However, every bilateral licensing negotiation outcome could not be accepted as FRAND just because of the parties' consensus, as several factors (e.g. uneven bargaining power) could lead the parties to agree on non-FRAND terms.⁸³² Therefore, it is crucial to give some content to FRAND and, more specifically, to the concept of reasonable.⁸³³

(n 713) 185; Jamie Lee, 'An Un(FRAND)ly Game: Preventing Patent Hold-up By Improving Standardisation' (2015) 10 J. Bus. & Tech. L. 375; Lee suggested that SSOs can use some Georgia-Pacific factors (i.e. 15 factors set in Georgia-Pacific Corp. v U.S. Plywood Corp., 318 F. Supp. 1116) to determine a reasonable royalty in patent infringement actions) to determine whether licensing terms are reasonable.

⁸²⁴ Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 186.

⁸²⁵ Mark R Patterson, 'Inventions, Industry Standards, and Intellectual Property' (2002) 17 Berkeley Tech. L.J. 1043, 1080, 1053; Farrell (n 725) 610.

⁸²⁶ Osenga (n 816) 216.

⁸²⁷ Li and Wang (n 718) 37; Pentheroudakis and Baron, 'Licensing Terms of Standard Essential Patents' (n 604) 166.

⁸²⁸ Swanson and Baumol (n 780) 16-17; Kelly and Prywes (n 791) 9; Swanson and Baumol (n 780) 21: They thought that the auction proposal may not always be the most effective solution, particularly if there is a limited number of competing proprietary solutions and members are not well informed about their value.

⁸²⁹ Contreras, 'Fixing FRAND: A Pseudo-Pool Approach to Standards-based Patent Licensing' (n 10) 68-69, 78-87.

⁸³⁰ SEPs Expert Group (n 38) 96.

⁸³¹ Licences that were made in comparable circumstances.

⁸³² Ordover and Shampine, 'Implementing the FRAND Commitment' (n 320) 3.

⁸³³ Lemley, 'Intellectual Property Rights and Standard-Setting Organizations' (n 1) 1957-1968.

The difficulty of assessing a reasonable rate for an entire SEP portfolio and substantial costs associated with the valuation of all these SEPs could be overcome by requiring SEP owners to determine a sample of SEPs from their portfolios that can be considered for the valuation.⁸³⁴ It should not be possible to increase the royalty rates even if the SEP has become more valuable over time and most favoured nation-type clauses should be used to avoid situations where later licensees pay lower royalties than earlier ones.⁸³⁵

Non-discriminatory does not mean imposing uniform licensing terms, including royalties, to each licensee; a SEP owner should be able to impose different licensing terms where they could be justified commercially and considering factual circumstances (e.g. presence of a cross-licence between the SEP owner and the relevant licensee).⁸³⁶ In other words, the non-discriminatory concept does not categorically prohibit price discrimination of dominant firms; instead, it prohibits such conduct only if it is capable of distorting competition among similarly situated licensees.⁸³⁷ Although the general perception is that only SEP owners benefit from discrimination, this is not always the case; potential licensees may also prefer customisation of licensing terms over inflexible (i.e. non-negotiable) licensing terms, particularly if they have complex business requirements.⁸³⁸

⁸³⁴ Denis W Carlton and Allan L Shampine, 'An Economic Interpretation of FRAND' (2013) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2256007> accessed 14 May 2022, 12-13.

⁸³⁵ *ibid* 13.

⁸³⁶ SEPs Expert Group (n 38) 115; Cowie (n 744) 150; Richard J Gilbert, 'Deal or No Deal? Licensing Negotiations in Standard-Setting Organisations' (2011) 77 *Antitrust L.J.* 855, 872-876: Gilbert proposed to define non-discrimination by considering economic efficiency (e.g. determining a royalty schedule from which licensees could choose) for a workable bilateral *ex ante* negotiation mechanism; Damien Geradin, 'Pricing abuses by essential patent holders in a standard-setting context: a view from Europe' (2009) 76 *Antitrust L.J.* 326, 340: Geradin argued that generally non-vertically integrated SEP owners do not have any incentive to discriminate between similarly situated potential licensees as they benefit from downstream competition of their licensees; For a contrary opinion see Haris Tsilikas, 'Huawei v. ZTE in context - EU competition policy and collaborative standardisation in wireless telecommunications' (2017) 48(2) *IIC* 151, 163; Harris Tsilikas and Claudia Tapia, 'SMEs and Standard Essential Patents: Licensing Efficiently in the Internet of Things' (2017) 52 *les Nouvelles* 170, 175: They stated that generally, SEP owners allow unlicensed use of their technologies by SMEs as they prefer to allocate their scarce sources to detect infringements of large implementers rather than of SMEs, which become a more stable royalty source after establishing a stronger market presence.

⁸³⁷ J Gregory Sidak and Urška Petrovčič, 'Will the CJEU's Decision on MEO Change FRAND Disputes Globally?' (2018) 3 *Criterion J. on Innovation* 301, 307, 326; SEPs Expert Group (n 38) 114.

⁸³⁸ Jorge L Contreras and Anne Layne-Farrar, 'Non-Discrimination and FRAND Commitments' in Jorge L Contreras (eds), *The Cambridge Handbook of Technical Standardization Law* (Cambridge University Press 2017), 199.

One possible definition of non-discrimination is that all (potential) licensees should be offered licences, and similarly situated licensees should pay the same royalty.⁸³⁹

Similarly situated refers to competing entities expecting to obtain the same incremental value from the technology covered by the SEP compared to the next best alternative technology before the standard is set.⁸⁴⁰ Considering this definition, entities in different industries and using the same standard for different products (e.g. handset and wireless heart monitor) can pay different royalties for the same SEP.⁸⁴¹ However, this definition may not always produce desired results.⁸⁴² For example, the technology covered by the SEP can improve the functioning of products rather than reducing the licensees' costs and there may be no next-best alternative technology. In this case, the value of the technology depends on the incremental value of (potential) licensees' profits as a result of the increased demand for the standard-compliant product and this is hard to measure.⁸⁴³ This issue could be overcome by determining 'a uniform rate assessed against a common component incorporating the patent [SEP] used by all competitors ... to define *similarly situated*' and accordingly, defining similarly situated as any firm using this common component despite the value that they derive from the SEP.⁸⁴⁴ The definition also allows the application of different royalty rates, although not as much as the first definition, to entities that do not use the common component or use different common components.⁸⁴⁵

In principle, the non-discrimination assessment requires some level of transparency as to existing licences and such assessment is not easy since there is no certainty as to the factors that should be considered and because of the complexity of licensing agreements.⁸⁴⁶ Non-discrimination could be promoted further, for instance, by implementing a mechanism enabling the disclosure of existing licensing terms by SEP owners to willing licensees, courts and competition authorities within the limits of non-

⁸³⁹ Carlton and Shampine, 'An Economic Interpretation of FRAND' (n 834) 10; Damien Geradin, 'SEP Licensing After Two Decades of Legal Wrangling: Some Issues Solved, Many Still to Address' (2020) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3547891> accessed 10 May 2021, 11.

⁸⁴⁰ Carlton and Shampine, 'An Economic Interpretation of FRAND' (n 834) 10; SEPs Expert Group (n 38) 116-117: They mentioned that *TLC v Ericsson*, US District Court, Central District of California (WL 4488286) (overturned on appeal) states that similarly situated companies do not need to be head-to-head competitors. Using the same technology does not necessarily make companies similarly situated either. In more dynamic product markets, similarly situated should be interpreted more broadly.

⁸⁴¹ Carlton and Shampine, 'An Economic Interpretation of FRAND' (n 834) 10.

⁸⁴² *ibid.*

⁸⁴³ *ibid.*

⁸⁴⁴ *ibid.* 11.

⁸⁴⁵ *ibid.*

⁸⁴⁶ SEPs Expert Group (n 38) 116-117; SEPs Expert Group (n 38) 117: They mentioned that the non-discrimination analysis mostly focuses on royalties in practice.

disclosure obligations as well as using standard terms and conditions for licensing offers.⁸⁴⁷ Also, it may be easier to assess whether an offer or a licence is discriminatory if the analysis focuses on the following questions: (i) whether sufficient licensing terms and conditions offered to different licensees affect their ability to compete; and (ii) whether the SEP owner can objectively justify differences in these terms and conditions.⁸⁴⁸ In any case, potential licensees should be free to challenge the validity of SEPs and such disputes should not lead to higher royalties for their claimants.⁸⁴⁹

Recently, another FRAND-related issue that has been causing controversy is licensing in the value chain. Licensing in the value chain refers to the issue of whether FRAND commitments limit the SEP owners' freedom of choosing the level of the value chain at which they will license their SEPs (i.e. access to all) or whether they are obliged to give licence to any entity regardless of its position at the value chain (i.e. license to all).⁸⁵⁰ While the IPR policies of some of the SSOs, like IEEE, favour the license to all approach, most of them are open to interpretation and the EU caselaw on this issue is not settled.⁸⁵¹ This was indeed one of the main issues in the SEP-related case between Nokia and Daimler before the Regional Court of Düsseldorf⁸⁵² which referred questions to the CJEU for a preliminary ruling.⁸⁵³

The licensing in the value chain discussion is mainly around ETSI's IPR policy which is open to interpretation. The main sub-headings of this controversy are the prevailing licensing practice at the time when the ETSI IPR policy was drafted, the policy's wording, the Horizontal Guidelines, the doctrine of exhaustion, reciprocity, the efficiency of licensing negotiations, royalty bases used in calculation of royalties and have-made-rights.⁸⁵⁴ Since

⁸⁴⁷ Lemley and Shapiro, 'A Simple Approach to Setting Reasonable Royalties for Standard Essential Patents' (n 806) 1141; *ibid* 120-121.

⁸⁴⁸ SEPs Expert Group (n 38) 117.

⁸⁴⁹ Carlton and Shampine, 'An Economic Interpretation of FRAND' (n 834) 13.

⁸⁵⁰ SEPs Expert Group (n 38) 75.

⁸⁵¹ *ibid* 75-76.

⁸⁵² Civil Chamber 4c of the Regional Court Düsseldorf, case ID: 4c O 17/19.

⁸⁵³ SEPs Expert Group (n 38) 76 and 79; 'Joint press release of Nokia and Daimler AG: Daimler and Nokia sign patent licensing agreement' [2021] <<https://group-media.mercedes-benz.com/marsMediaSite/en/instance/ko/Joint-press-release-of-Nokia-and-Daimler-AG-Daimler-and-Nokia-sign-patent-licensing-agreement.xhtml?oid=50101910>> accessed 19 September 2021; Nokia and Daimler announced that they had settled all their pending litigation and signed a licensing agreement on 1 June 2021. Accordingly, the CJEU ordered the removal of the preliminary ruling request from the register on 24 June 2021. For the order (only available in German and French) see <<https://curia.europa.eu/juris/document/document.jsf?text=&docid=244106&pageIndex=0&doclang=DE&mode=lst&dir=&occ=first&part=1&cid=369481>> accessed 19 September 2021.

⁸⁵⁴ Bertram Huber, 'Why the ETSI IPR Policy does not and has never Required Compulsory "License to All": A Rebuttal to Karl Heinz Rosenbrock' (2017) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3038447> accessed 10 May 2021; Karl Heinz Rosenbrock, 'Licensing at All Levels is the Rule under the ETSI IPR Policy: a Response to Dr. Bertram Huber' (2017) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3064894> accessed 11 May

giving a definitive answer to this complex question is not one of the objectives of this work, the details of these arguments are not provided here.

Rather than favouring license to all or access to all, finding a middle way might be a better alternative. Facilitating horizontal and vertical coordination between SEP owners and potential licensees by SSOs to determine the value chain level where SEPs will be licensed is a mid-way proposal supported by a group of scholars.⁸⁵⁵ This proposal is based on three principles: (i) licensing all SEPs at a single level may be economically more efficient as this would lower transaction costs substantially and reduce the risk of over- and under-compensation for SEPs; (ii) the value of a SEP should not change according to the position of the potential licensee in the value chain, considering the principle of neutrality; and (iii) as with any other cost element of the production, SEP royalties should be passed to customers until it reaches to the end-user.⁸⁵⁶

4.4. Licensing Negotiations

Ex ante vs *ex post* and bilateral vs collective are the two main tensions that have been at the centre of the discussions aiming to provide the ideal SEP licensing conditions. Most SSOs favour *ex post* bilateral licensing negotiations to avoid antitrust liability by not getting involved with these negotiations and pushing them outside of their physical zone and authority.⁸⁵⁷ Not prolonging standardisation is another reason why most SSOs favour *ex post* licensing negotiations.⁸⁵⁸ Even though there is a strong possibility that *ex ante* negotiations could channel parties to voluntary licensing negotiations and prevent the issue of *ex post* higher royalties, *ex post* negotiations remain a viable alternative particularly when they are aided with other mechanisms such as arbitration.⁸⁵⁹

2021; Karl Heinz Rosenbrock, 'Why the ETSI IPR Policy Requires Licensing to All' (2017) <https://www.fair-standards.org/wp-content/uploads/2017/08/Why-the-ETSI-IPR-Policy-Requires-Licensing-to-All_Karl-Heinz-Rosenbrock_2017.pdf> accessed 10 May 2021; Juan Martinez, 'FRAND as Access to All versus to License to All' (2019) 14 JIPLP 642, 649; Joachim Henkel, 'How to license SEPs to promote innovation and entrepreneurship in the IoT' (2021) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3808987> accessed 8 June 2021; Vary (n 353); Geradin, 'SEP Licensing After Two Decades of Legal Wrangling: Some Issued Solved, Many Still to Address' (n 839).

⁸⁵⁵ SEPs Expert Group (n 38) 86-89; SEPs Expert Group (n 38) 88: They proposed that an independent body or licensing administrators could also facilitate the coordination.

⁸⁵⁶ *ibid* 84-85.

⁸⁵⁷ Ohana et al (n 790) 648-649.

⁸⁵⁸ Skitol, 'Concerted Buying Power: Its Potential for Addressing the Patent Holdup Problem in Standard Setting' (n 740) 734.

⁸⁵⁹ Webb (n 778) 221-222; Justin (Gus) Hurwitz, 'The Value of Patents in Industry Standards: Avoiding License Arbitrage with Voluntary Rules' (2008) 36 AIPLA Q.J. 1, 35; Ohana et al (n 790) 653; Mark A Lemley and Carl Shapiro, 'A Simple Approach to Setting Reasonable Royalties for Standard Essential Patents' (n 806).

The effectiveness of bilateral negotiations, which is the method preferred by most SSOs, is being questioned mostly because it seems that they lead to higher transaction costs and royalty rates above competitive levels.⁸⁶⁰ Despite its shortcomings, bilateral negotiations are still the dominant practice in the standardisation ecosystem mainly to avoid prejudicing the incentive to innovate with unreasonably low royalties and due to antitrust concerns.⁸⁶¹ Bilateral *ex ante* negotiations, which could affect the members' decision on including proprietary technologies into standards and level the parties' bargaining power, might be an alternative to bilateral *ex post* negotiations.⁸⁶²

The benefits of collective negotiations' could be realised whilst SEP owners are still fairly remunerated for their contributions by introducing certain safeguards to regulate the licensing process. For instance, SEP owners' participation in licensing communications could be voluntary; any such communications would be permissible only if they are transparent and do not facilitate the dominance of potential licensees, parties would not be allowed to discuss product prices, and having individual licensing agreements would still be possible.⁸⁶³

SSOs could be relieved from antitrust liability by recognising collective negotiations between SSOs or (potential) licensees and SEP owners as *per se* legal or by considering them to be within the scope of Article 101(3) as an ancillary restriction which is required to realise the main procompetitive object.⁸⁶⁴ This may depend on conditions, such as that SSOs could only negotiate with one SEP owner at a time to eliminate collusion among SEP owners.⁸⁶⁵ Alternatively, SSOs' concerns could be alleviated where antitrust law distinguishes collective action to facilitate efficient licensing negotiations from anticompetitive collusion among potential licensees.⁸⁶⁶

⁸⁶⁰ Farrell (n 725) 632-635; Patterson (n 825) 1078-1080; Richard J Gilbert, 'Deal or No Deal? Licensing Negotiations in Standard-Setting Organisations' (2011) 77 Antitrust L.J. 855, 866-868; Patrick D Curran, 'Standard-Setting Organizations: Patents, Price Fixing, and Per Se Legality' (2003) 70 U. Chi. L. Rev. 983, 1003.

⁸⁶¹ Richard J Gilbert, 'Deal or No Deal? Licensing Negotiations in Standard-Setting Organisations' (2011) 77 Antitrust L.J. 855, 859, 868, 870; Farrell (n 725) 632; Patterson (n 825) 1055-1056; Layne-Farrar et al, 'Preventing Patent Hold Up: An Economic Assessment of Ex Ante Licensing Negotiations in Standard Setting' (n 800) 448, 461.

⁸⁶² Layne-Farrar et al, 'Preventing Patent Hold Up: An Economic Assessment of Ex Ante Licensing Negotiations in Standard Setting' (n 800) 462- 468.

⁸⁶³ Kelly and Prywes (n 791) 8-11.

⁸⁶⁴ Curran (n 860) 984, 992; For the potential benefits of collective negotiations see Curran (n 860) 984, 997, 1001, 1002; Farrell (n 725) 633-634: The DOJ and the FTC find *ex ante* negotiations reasonable to prevent patent holdup; Ohana et al (n 790) 651-653.

⁸⁶⁵ Curran (n 860) 1004.

⁸⁶⁶ Patterson (n 825) 1056.

Patent [SEP] pools are another issue that can be considered a sub-heading of collective licensing negotiations. Despite the potential benefits of pooling SEPs and the expectation that they will become more important in the IoT landscape where there are fewer cross-licensing opportunities, they are not popular among SEP owners mainly because of their disagreements on a wide variety of subjects such as royalty-sharing mechanisms and quality of SEP portfolios.⁸⁶⁷ Random essentiality checks and reducing SEP inflation by assessing the quality of portfolios, which will dictate the SEP owners' shares in the total royalty cap, could incentivise SEP pools.⁸⁶⁸ Also, the use of SEP pools could be promoted, if SSOs foster patent pools rather than being involved in their formation, perhaps by selecting a few patent pool management companies which will try to convince SEP owners to join pools.⁸⁶⁹ Overall, as opposed to mandatory pools, there is a greater support for voluntary pools.⁸⁷⁰

4.5. SEP Owners' Enforcement Rights

While not limiting SEP owners' right to enforce their SEPs and deeming that they have waived at least some of their enforcement rights represent the extreme ends of the SEP enforcement discussion, the majority favours limiting these rights under certain conditions.⁸⁷¹ Incentive to innovate, not chilling participation in standardisation, and SEP owners' ability to protect themselves against patent hold-out are the backbone of pro-injunction scholars' arguments.⁸⁷² On the other hand, advocates for limiting the SEP enforcement claim that appropriate royalties, rather than excluding (potential) licensees

⁸⁶⁷ Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 172, 174; Commission, 'Summary Report of the Public Consultation on Patents and Standards - A Modern Framework for Standardisation involving Intellectual Property Rights' (n 758) 8; Régibeau et al, 'Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing' (n 760) 74-75; Pohlmann and Blind, 'Landscaping study on standard essential patents (SEPs)' (n 762) 36: They pointed out that only 9% of the worldwide declared SEPs are licensed through patent pools; John 'Jay' Jurata, Jr. and Emily N Luken, 'Glory Days: Do the Anticompetitive Risks of Standards-Essential Patent Pools Outweigh their Procompetitive Benefits?' (2021) 58 San Diego L. Rev. 417: They argued that the procompetitive effects of SEP pools are diminished in practice as they can increase the market power of SEP owners collectively and they do not reduce transaction costs if there are multiple pools for the same standard.

⁸⁶⁸ Régibeau et al, 'Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing' (n 760) 75.

⁸⁶⁹ SEPs Expert Group (n 38) 162; Commission, 'Summary Report of the Public Consultation on Patents and Standards - A Modern Framework for Standardisation involving Intellectual Property Rights' (n 758) 8; Régibeau et al, 'Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing' (n 760) 86; For the comparison of the IEEE's failed attempt to stimulate patent pool activities and DVB's successful pool model see SEPs Expert Group (n 38) 162-163; For the concerns related to SSOs' involvement in SEP pools see SEPs Expert Group (n 38) 164-165.

⁸⁷⁰ Commission, 'Summary Report of the Public Consultation on Patents and Standards - A Modern Framework for Standardisation involving Intellectual Property Rights' (n 758) 9.

⁸⁷¹ Schallop (n 726) 239-240; Kesan and Hayes (n 715) 309; Farrell (n 725) 610; Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 136.

⁸⁷² Wright, 'SSOs, FRAND, and Antitrust: Lessons from the Economics of Incomplete Contracts' (n 716) 806-808; Kristen Jakobsen Osenga, 'Ignorance over Innovation: Why Misunderstanding Standard Setting Organisations will Hinder Technological Progress' (2018) 56 U. Louisville L. Rev. 159.

from the market, creates sufficient incentive for innovation and participation in standardisation.⁸⁷³

SEP owners' enforcement rights could be limited based on parties' intentions or considering applicable procedural rules. For instance, SEP owners' enforcement rights, particularly their rights to injunctive relief, could be limited against potential willing licensees.⁸⁷⁴ In general, a potential licensee who refuses to comply with FRAND terms determined by an independent adjudicator, refuses to negotiate in good faith or insists on unfair terms, would be considered unwilling.⁸⁷⁵ Besides the willing licensee definition, general unreasonable behaviour by a potential licensee should also be taken into account when assessing the availability of injunctive relief.⁸⁷⁶ In any case, SEP owners should be allowed to use injunctions (and the ITC's exclusion orders) mainly to protect themselves against patent hold-out unless their aim is patent hold-up.⁸⁷⁷

In the context of limiting SEP enforcement, SEP-based injunctive relief is the most controversial remedy and at the centre of attention. It seems the proposed limitations to SEP-based injunctive relief are indeed in line with the general limitations of this equitable remedy: they should only be granted in rare circumstances or when there is no other remedy available to compensate the SEP owner's loss.⁸⁷⁸ Interim SEP-based injunctive relief should not be permitted, or they should only be permitted after SEP owners have gone through the predefined process to resolve SEP disputes.⁸⁷⁹ It is worth noting that, based on the information on the ETSI database, the SSO discussed SEP-based injunctions following *Motorola GPRS* and *Samsung* in the EU and *Apple Inc. v Motorola Inc.* in the US, but no consensus was reached.⁸⁸⁰

⁸⁷³ Erik Hovenkamp and Thomas F Cotter, 'Anticompetitive Patent Injunctions' (2016) 100 Minn. L. Rev. 871; Richard H Stern, 'Who Should Own the Benefits of Standardisation and the Value It Creates' (2018) 19 Minn. J.L.Sci. & Tech. 107.

⁸⁷⁴ Lemley and Shapiro, 'A Simple Approach to Setting Reasonable Royalties for Standard Essential Patents' (n 806) 1141, 1142-1143; Li and Wang (n 718) 35.

⁸⁷⁵ Osenga (n 816) 215; National Research Council (n 733) 111; A Douglas Melamed and Carl Shapiro, 'How Antitrust Law can Make FRAND Commitments More Effective' (2018) 127 Yale L.J. 2110: They argued that injunctive relief should be available to SEP owners only after a potential licensee refuses to pay the royalty determined as FRAND to prevent SEP owners from using them to pressure potential licensees.

⁸⁷⁶ Osenga (n 816) 215.

⁸⁷⁷ Lim, 'Standard Essential Patents, Trolls, and The Smartphone Wars: Triangulating the End Game' (n 18) 62.

⁸⁷⁸ Osenga (n 816) 215; National Research Council (n 733) 111.

⁸⁷⁹ National Research Council (n 733) 112; Kühn et al (n 791) 4.

⁸⁸⁰ <<https://www.etsi.org/newsroom/news/812-2014-07-news-etsi-ipr-committee-continues-discussions-on-injunctive-relief?highlight=WyJpbmp1bmN0aXZlliwicmVsaWVmliwiaW5qdW5jdGl2ZSByZWxpZWYiXQ==>> accessed 14 April 2022.

Introducing ADR mechanisms, more specifically arbitration, is another controversial issue related to SEP enforcement and resolving SEP disputes, including determining FRAND royalty rates.⁸⁸¹ It is uncommon for SSOs to have ADR mechanisms and, even when they have one, it seems that they are not preferred mechanisms for parties.⁸⁸² For instance, DVB's IPR policy has included arbitration provisions since 1995, but there was no known case where they were applied by 2014.⁸⁸³ There have been some indirect attempts to encourage the use of ADR in SEP disputes. For example, ETSI and the WIPO developed model submission agreements that can be used to refer FRAND disputes to WIPO mediation or arbitration.⁸⁸⁴

Despite the high costs of setting up ADR mechanisms and the difficulties of resolving SEP disputes through using ADR, overall, it seems that they are more suitable for SEP disputes and may be more predictable and efficient than litigation.⁸⁸⁵ Also, requiring members to agree to mandatory arbitration for the resolution of SEP disputes could motivate them to make FRAND offers and agree on licensing terms in bilateral negotiations.⁸⁸⁶ Voluntary licensing negotiations could be further reinforced by introducing fee-shifting (i.e. losing

⁸⁸¹ For a detailed (baseball style) arbitration proposal see Lemley and Shapiro, 'A Simple Approach to Setting Reasonable Royalties for Standard Essential Patents' (n 806) 1141, 1144-1146, 1150, 1152-1154; Carter Eltzroth, 'Arbitration of Intellectual Property Disputes' (2014) 19 No. 1 IBA Arb. News 88, 89-90: Eltzroth argued that baseball style arbitration, providing speedy resolution, can be superficially attractive and may jeopardise the credibility of arbitration. As an alternative, they proposed to limit the number of SEPs in arbitration proceedings to preserve the speed of arbitration; Jorge L Contreras, 'Global Rate Setting: A Solution for Standards-Essential Patents?' (2019) 94 Wash. L. Rev. 701, 732: Contreras argued that whilst providing an expedient resolution mechanism, baseball style arbitration is not suitable to determine aggregated royalties for standards, and in this model, arbitrators cannot apply consistent methodologies given that they need to choose one of the proposals presented by the parties; Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 183: They thought, despite the criticisms, the baseball style arbitration proposal of Lemley and Shapiro has some benefits; Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 178-181: They referred to other ADR mechanisms like mediation, and mini-trials where parties make presentations to their top management representatives who negotiate a solution, and all these could be set up within SSOs or outsourced.

⁸⁸² Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 180; Jorge L Contreras, 'Global Rate Setting: A Solution for Standards-Essential Patents?' (2019) 94 Wash. L. Rev. 701, 730-731: Contreras pointed out that DVB, VITA and the Blue-Ray Disc Association require the resolution of disputes through arbitration, but in practice, only the Blue-Ray Disc Association's mandatory arbitration policy has ever been invoked.

⁸⁸³ Eltzroth (n 881) 88.

⁸⁸⁴ Guillaume Areou and Christophe Arfan, 'The use of arbitration in FRAND disputes' (2021) 3 I.B.L.J. 327, 330; WIPO ADR for FRAND Disputes <<https://www.wipo.int/amc/en/center/specific-sectors/ict/frand/>> accessed 21 May 2022.

⁸⁸⁵ Lemley and Shapiro, 'A Simple Approach to Setting Reasonable Royalties for Standard Essential Patents' (n 806) 1141, 1152; M Scott Donahey and David L Newman, 'Alternative Dispute Resolution Process that can Resolve FRAND Disputes Better than District Court Litigation' (2014) 26 No. 6 Intell. Prop. Tech. L.J. 3; Layne-Farrar, 'How to Avoid Antitrust Trouble in Standard Setting: A Practical Approach' (n 780) 45; Kühn et al (n 791) 4; Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 177-179; Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 183: They state that the cost of using ADR will be around €20K per day.

⁸⁸⁶ Régibeau et al, 'Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing' (n 760) 87; Lim, 'Standard Essential Patents, Trolls, and The Smartphone Wars: Triangulating the End Game' (n 18) 31.

party pays all fees unless this is unjust or the losing party's position was reasonably justified) which would again incentivise parties to make more reasonable proposals.⁸⁸⁷ The fact that most arbitral awards made 'in accordance with a customary set of due process procedures are recognised and enforceable in all countries that are parties to the New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards' is another advantage of using arbitration in cross-border SEP disputes.⁸⁸⁸

Particularly, avoiding having multiple cases in different jurisdictions dealing with the same SEP dispute (one-stop-shop) and confidentiality of arbitration are the focal points of the SEP arbitration discussion.

Providing a one-stop shop for SEP disputes and eliminating competition between jurisdictions that have different procedural rules and practices make arbitration a very attractive alternative to national litigation.⁸⁸⁹ However, differentiating between FRAND disputes and other SEP-based claims (i.e. validity, infringement and essentiality) should be considered given the possibility that the benefits of arbitration would be more pronounced for disputes in the former group.⁸⁹⁰ The increasing appetite to challenge the validity, infringement and essentiality of SEPs subject to arbitration proceedings also supports this position.⁸⁹¹ On the other hand, opting for a binary system and drawing the line between the jurisdiction of courts and arbitration tribunals may lead to practical difficulties such as the need to stay arbitration proceedings until the court decides on validity.⁸⁹² In any case, the courts' sole authority to grant injunctive relief should be preserved alongside SEP arbitration.⁸⁹³

Confidentiality of arbitration proceedings and awards is another obstacle to using arbitration for FRAND disputes particularly given that the disclosure of at least certain information regarding these disputes could help other potential licensees to assess

⁸⁸⁷ Matt Rosenberg and Jake Berdine, 'A Reasonable Approach to Reasonableness: A Proposal to Improve RAND Application in Patent Arbitration Proceedings' (2016) 44 AIPLA Q.J. 459.

⁸⁸⁸ Jorge L Contreras, 'Global Rate Setting: A Solution for Standards-Essential Patents?' (2019) 94 Wash. L. Rev. 701, 727.

⁸⁸⁹ Eltzroth (n 881) 89; Lemley and Shapiro, 'A Simple Approach to Setting Reasonable Royalties for Standard Essential Patents' (n 806) 1163-1165; Commission, 'Summary Report of the Public Consultation on Patents and Standards - A Modern Framework for Standardisation involving Intellectual Property Rights' (n 758) 11; Areou and Arfan (n 884) 339; Jorge L Contreras, 'Global Rate Setting: A Solution for Standards-Essential Patents?' (2019) 94 Wash. L. Rev. 701, 733.

⁸⁹⁰ Eltzroth (n 881) 89; Commission, 'Summary Report of the Public Consultation on Patents and Standards - A Modern Framework for Standardisation involving Intellectual Property Rights' (n 758) 11.

⁸⁹¹ Eltzroth (n 881) 89.

⁸⁹² Areou and Arfan (n 884) 337.

⁸⁹³ Eltzroth (n 881) 89.

whether the terms offered are non-discriminatory and, in general, to the development of caselaw.⁸⁹⁴ Stakeholder opinion on the confidentiality of arbitration is also mixed. Some consider this as a feature that would lead to efficient dispute resolution while others support making arbitration outcomes public.⁸⁹⁵ Perhaps the ICC's limited publication policy allowing the publication of some parts of arbitrations such as the names of the arbitrators and, under certain circumstances, awards, orders and opinions, could be implemented for FRAND arbitration.⁸⁹⁶

Arbitration could be mandatory or voluntary.⁸⁹⁷ Given the legal and procedural peculiarities of SEP disputes, before introducing mandatory arbitration, SSOs should consider certain issues such as: (i) whether the arbitration requirement applies only to disputes between members; (ii) whether the arbitrator(s) could only determine FRAND royalty rates or they would be authorised to decide on other related issues (e.g. validity and essentiality of patents, non-royalty licence terms); (iii) whether arbitral awards would be reasoned; (iv) whether they would be confidential; (v) whether an arbitral award related to a standard will be binding or only persuasive for future disputes related to the same standard; (vi) the arbitration style (e.g. baseball style);⁸⁹⁸ and (vii) whether SEP owners could seek injunctive relief during pending arbitration proceedings.⁸⁹⁹

5 CONCLUSION

This part is not a summary of the preceding parts which aim to show the bigger picture by covering different opinions; instead, it brings together in a single analysis the points

⁸⁹⁴ *ibid* 89; Régibeau et al, 'Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing' (n 760) 80; Areou and Arfan (n 884) 348; Jorge L Contreras, 'Global Rate Setting: A Solution for Standards-Essential Patents?' (2019) 94 Wash. L. Rev. 701, 729.

⁸⁹⁵ Commission, 'Summary Report of the Public Consultation on Patents and Standards - A Modern Framework for Standardisation involving Intellectual Property Rights' (n 758) 11; Dr Axel Walz, Judge Munich Regional Court Patent Division (panellist), Panel discussion: Transparency regarding licensing terms and conditions (Transparency: How to clarify possible SEP exposure upfront?, Webinar, February 2021): Walz argued that ADR is more appropriate to settle SEP disputes, but the confidentiality of awards is a downside, so this should be waived at least to a certain extent when parties use ADR for SEP disputes.

⁸⁹⁶ Eltzroth (n 881) 89; ICC, 'Note to Parties and Arbitral Tribunals on the Conduct of the Arbitration under the ICC Rules of Arbitration (IV) Transparency' (2021) <<https://iccwbo.org/content/uploads/sites/3/2020/12/icc-note-to-parties-and-arbitral-tribunals-on-the-conduct-of-arbitration-english-2021.pdf>> accessed 2 April 2021.

⁸⁹⁷ Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 180-181; Commission, 'Summary Report of the Public Consultation on Patents and Standards - A Modern Framework for Standardisation involving Intellectual Property Rights' (n 758) 11; Régibeau et al, 'Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing' (n 760) 79-80, 87.

⁸⁹⁸ In baseball style arbitration, the arbitrator picks one of the royalty rates that the parties proposed, so they do not need to calculate the royalty rate.

⁸⁹⁹ Jorge L Contreras, David L Newman, 'Developing a Framework for Arbitrating Standards-Essential Patent Disputes' (2014) J. Disp. Resol. 23; Jorge L Contreras, David L Newman, 'Alternative Dispute Resolution and FRAND Disputes' in Jorge L Contreras (eds), *The Cambridge Handbook of Technical Standardization Law* (Cambridge University Press 2017), 360-361.

which I think could improve the SEP licensing framework. Although it does not answer all the questions listed, the part is mainly structured considering the general themes/main headings in Table 2 provided in Chapter II.

IPR policies do not only affect stakeholders' decisions to join an SSO: they also provide helpful guidance to courts and other authorities in SEP disputes. As Tsilas has noted, the *Rambus* cases where Rambus got away with enforcing SEPs that it had not disclosed because of the vague IPR provisions highlighted the importance of IPR policies.⁹⁰⁰ As SSOs cannot ignore the impact of IPRs on standardisation and take a passive stance, it is their responsibility to ensure that IPR policies are stable, predictable, transparent, and effective whilst enabling competition and facilitating innovation. As Teece and Sherry have put it, flexible IPR policies are the most efficient solution for the complications of standardisation.⁹⁰¹ Although there are concerns that stricter IPR policies might discourage certain groups from participating in standardisation in the short-run, as Farrell and others have suggested, the focus should be on the long-term benefits, promoting economic efficiency, and consumer welfare.⁹⁰²

Unsurprisingly, there are significant differences between SSOs' IPR policies resulting from SSOs' aims (e.g. desire to enlarge their membership), their membership composition, and the specific field in which they are active. As Tsai and Wright have pointed out, these differences also affect how SSOs amend their IPR policies to respond to high-profile SEP cases.⁹⁰³

In line with the US caselaw (see Chapter II), Kesan and Hayes have confirmed that SEP owners' obligations prescribed in IPR policies are binding before courts.⁹⁰⁴ As Lemley, Teece, and Sherry have confirmed, besides having well-drafted IPR policies facilitating access to standards and promoting innovation within competition/antitrust law limits, it is crucial to clarify their status (e.g. binding contract) and enforceability which would help authorities to enforce them in SEP disputes and lessen the reliance on competition/antitrust law remedies.⁹⁰⁵ Perhaps, clarifying the binding status of IPR

⁹⁰⁰ Tsilas (n 728) 494.

⁹⁰¹ Teece and Sherry (n 77) 1982, 1987.

⁹⁰² Farrell (n 725) 610.

⁹⁰³ Tsai and Wright, 'Standard Setting, Intellectual Property Rights, and the Role of Antitrust in Regulating Incomplete Contracts' (n 717) 175.

⁹⁰⁴ Kesan and Hayes (n 715) 252.

⁹⁰⁵ Lemley, 'Intellectual Property Rights and Standard-Setting Organizations' (n 1) 1934: The efficiency of IPR policies depends on how they are designed, implemented and enforced; Teece and Sherry (n 77) 1970.

policies could also foster members' voluntary compliance and reduce the number of SEP disputes.

Skitol and Zhang have referred to SSOs' potential liability if they do not take the necessary measures to improve the SEP licensing framework, something also referred to in passing in some sources discussed in Chapters II and III.⁹⁰⁶ Although, not mitigating issues affecting the SEP licensing framework adversely have not led to SSOs' liability to date, the possibility of facing such a claim may also incentivise them to be more proactive in dealing with SEP issues. On the other hand, Contreras and Devlin have reiterated the importance of enforcement agencies' competition law/antitrust guidance to provide some comfort to SSOs in their IPR policy revisions.⁹⁰⁷ Thus, it seems that competition law/antitrust agencies could help the better use of IPR policies to improve the SEP licensing framework by reminding SSOs of their responsibilities in terms of ensuring the stability and sustainability of standardisation, whilst comforting them with regards to their competition/antitrust law remedies.

All of this supports the idea that SSOs should take the initiative to deal with SEP licensing issues by using their IPR policies which could be further adapted down the line to changing conditions and needs. They do not need to implement identical policies; they can tailor them considering their aims and members' needs as long as they facilitate access to standards efficiently and promote competition and innovation. Competition/antitrust agencies could support these efforts with their guidance.

As mentioned before, considering that now there is an issue of over- rather than under-declaration, discussion of proposals concerned with searching for, and timeous declaration of potential SEPs is mostly redundant. In any case, if SSOs opt to adopt Bekkers and others' and Régibeau and others' proposal combining an upfront blanket FRAND commitment with negative *ex ante* and *ex post* specific declaration, this could provide sufficient safeguards against under-declaration resulting from the burdensome expansive search duty.⁹⁰⁸

⁹⁰⁶ Skitol, 'Concerted Buying Power: Its Potential for Addressing the Patent Holdup Problem in Standard Setting' (n 740) 738, 743; Zhang (n 742) 394.

⁹⁰⁷ Contreras, 'Fixing FRAND: A Pseudo-Pool Approach to Standards-based Patent Licensing' (n 10) 93-94; Devlin (n 741) 261-262.

⁹⁰⁸ Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 159-16; Régibeau et al, 'Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing' (n 760) 64, 82-83, 86.

Layne-Farrar, Cowie and Lavelle have pointed out the issue that several interview participants raised: since both standards and patent applications evolve until their finalisation/grant, early disclosures may lead to the inclusion of non-essential patents into standards (i.e. over-declaration).⁹⁰⁹ This has been a valid concern, particularly considering the SEP disclosure patterns after *Rambus*, but could be alleviated by requiring SEP owners to provide further information after their initial declarations, as suggested in 4.1. above.

In theory, disclosure of licensing terms *ex ante* would provide some transparency and reduce transaction costs, and finds support from commentators like Lemley, Contreras and Régibeau and others.⁹¹⁰ However, despite its potential benefits, SSOs have been reluctant to introduce *ex ante* disclosure of licensing terms. Suppose an SSO plans to utilise this tool. In that case, it should consider that, as Baron and others have noted, previously introduced voluntary *ex ante* disclosure mechanisms have been unsuccessful, which shows that it may be challenging to get members' approval.⁹¹¹ More importantly, despite the enforcement agencies' blessings referred to in Chapters II and III, SSOs should assess the compatibility of such an initiative (and its potential consequences) with competition/antitrust law carefully as an ongoing responsibility.

Assessing patents' essentiality is crucial for the SEP licensing purposes and for assessing infringement as, in theory, it may be easier for SEP owners to successfully argue infringement where there is a standard-compliant product.⁹¹² Chapter II refers to the essentiality definition (i.e. patent claims that might be reasonably necessary to practice a standard) made by US courts.⁹¹³ SSOs could elaborate on this and provide a more thorough definition in IPR policies. Rather than imposing a one-size-fits-all SEP definition,

⁹⁰⁹ Layne-Farrar, 'Antitrust and Intellectual Property Rights: Assessing the Link Between Standards and Market Power' (n 787) 45; Cowie (n 744) 136; Commission, 'Summary Report of the Public Consultation on Patents and Standards - A Modern Framework for Standardisation involving Intellectual Property Rights' (n 758) 6.

⁹¹⁰ Mark A Lemley, 'Ten Things to do about patent Holdup of Standards (and One not to)' (n 789) 158; Contreras, 'Fixing FRAND: A Pseudo-Pool Approach to Standards-based Patent Licensing' (n 10) 66; Régibeau et al, 'Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing' (n 760) 30.

⁹¹¹ Baron et al, 'Making the Rules: The Governance of Standard Development Organisations and their Policies on Intellectual Property Rights' (n 699) 159.

⁹¹² Mark A Lemley and Timothy Simcoe, 'How Essential are Standard-Essential Patents?' (2019) 104 Cornell L. Rev. 607: Their hypothesis that 'compared to ordinary patents, SEPs would fare well in court, at least when it came to infringement' was proven to be wrong; they found that 'SEPs are no more likely to be found infringed than non-SEPs.'

⁹¹³ US Court of Appeals, Federal Circuit - *Rambus Inc v Infineon Technologies*, 318 F.3d 1081, 1096 (2003), 1098-1101; US Court of Appeals, Federal Circuit - *Qualcomm Incorporated v Broadcom Corp.* (n 17) 17.

the purpose should be having a clear definition that can be understood without referring to any subjective factors (e.g. members' perceptions or expectations). Thus, for instance, some SSOs should be free to cover different classes of SEPs (e.g. technically essential patents, commercially essential patents) in their definitions.

The 20-30% essentiality rate for the declared patents Bekkers and others have referred to illustrates how problematic over-declaration is in standardisation.⁹¹⁴ Again, as Bekkers and others have suggested, provision of more information, similar to claim charts,⁹¹⁵ by SEP owners, requiring them to update their declarations if there is a change in the status of a SEP, and allowing third parties to challenge the essentiality of SEPs could increase transparency and help alleviate over-declaration.⁹¹⁶

Blanket disclosures seem to facilitate over-declaration. Given the effect of the number of SEPs on royalty rates, as discussed in Chapter V, one might argue that blanket disclosures are doing more harm than good. However, they are also safeguards ensuring all the SEPs, whether known or disclosed, are covered by a FRAND commitment. Perhaps, SSOs might have the best of both worlds by following Bekkers and others' and Régibeau and others' proposal: introducing a hybrid regime requiring (i) all members to make a blanket FRAND declaration for all their future SEPs and allowing them to opt-out of the commitment for a specific patent, and (ii) patent owners to specify their SEPs at a certain point.⁹¹⁷ In this way, all SEPs, whether disclosed or not, would be subject to a FRAND commitment and, following their specification, if needed, their essentiality can be checked.

Several commentators, including the Commission's SEPs Expert Group, see independent third-party essentiality checks as a most promising solution for over-

⁹¹⁴ Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 147.

⁹¹⁵ L Herranz and C Tapia, 'Good and Bad Practices in FRAND Licence Negotiation' in G Zeiler and A Zojer (eds), *Resolving IP Disputes: A Selection of Contemporary Issues* (NWV 2018): 'Claim charts are documents prepared by the SEP holder, in which the essentiality of a patent is shown by presenting the mapping between each claim and the standard. ... They "map" or "chart" at least one claim of a patent family to the relevant standard(s), and may be based on an in-depth internal review by engineers and in-house counsel for the purpose of confirming essentiality (average timing to create one being around 50 man-hours). ... Claim charts, although not mandatory, are considered by German courts to be an acceptable way to give notice of the alleged infringement. A representative number of claim charts can be provided when negotiating large portfolios, at the parties' discretion. ... In case the SEP user refuses to sign an NDA [non-disclosure agreement], the SEP holder may choose not to have technical discussions. It may send no claim chart or just simplified claim charts.'

⁹¹⁶ Bekkers et al, 'Patents and Standards: A Modern Framework for IPR-based Standardisation' (n 713) 115-116, 141, 143-146, 199-200.

⁹¹⁷ *ibid* 159-16; Régibeau et al, 'Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing' (n 760) 64, 82-83, 86.

declaration.⁹¹⁸ Régibeau and others’ and the SEPs Expert Group’s proposal of checking the essentiality of, for example, a sample of SEPs rather than each SEP in a portfolio would help keep costs to a minimum.⁹¹⁹ As Bekkers and others, and Pohlman and Blind have noted, these checks would not identify truly essential patents with 100% accuracy.⁹²⁰ Instead, they would try to offset the consequences of over-declaration as much as possible. As suggested by many commentators, patent offices are the best candidates for the task given their skills, knowledge, and experience in patent examination, which can be transferred to essentiality checks. However, patent offices’ resources should be carefully assessed before burdening them with this extra responsibility, and, if necessary, they should be provided with extra resources to preserve the quality of their services. Régibeau and others’ proposal of repurposing the outcome of essentiality checks for valuing SEPs could also help SSOs bring stakeholders on board by further justifying the costs of essentiality checks.⁹²¹

As De Vellis and Layne-Farrar and others have noted, a FRAND commitment, which could be given for a specific SEP or in the form of blanket commitment, appears to be the best option for SEP licensing as, in theory, it truly balances the interests of SEP owners and potential licensees.⁹²² However, its vagueness has caused controversy, and the SEP licensing framework could benefit from further guidance SSOs would provide. Notably, the following clarifications different commentators have proposed might improve the framework:

1. Like IPR policies, SSOs could clarify that the FRAND commitment is binding and irrevocable, this would allow authorities to enforce these commitments more easily and might eventually incentivise parties to comply with them voluntarily. Its application scope (e.g. granted patents, patent applications, patents acquired after a standard has been finalised) should also be set to avoid the circumvention of the FRAND commitment requirement by relying on its vague application scope. Further, IPR policies should stipulate which patents (e.g. SEPs, non-SEPs, SEPs for different standards) could be bundled.

⁹¹⁸ Bekkers et al, ‘Patents and Standards: A Modern Framework for IPR-based Standardisation’ (n 713) 147-149; Ruiikka (n 762) 195; Régibeau et al, ‘Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing’ (n 760) 61, 86; SEPs Expert Group (n 38) 57, 63-64; Pohlmann and Blind, ‘Landscaping study on standard essential patents (SEPs)’ (n 762) 49, 56-57.

⁹¹⁹ Régibeau et al, ‘Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing’ (n 760) 60; SEPs Expert Group (n 38) 59-60, 65.

⁹²⁰ Bekkers et al, ‘Patents and Standards: A Modern Framework for IPR-based Standardisation’ (n 713) 148; Pohlmann and Blind, ‘Landscaping study on standard essential patents (SEPs)’ (n 762) 56.

⁹²¹ Régibeau et al, ‘Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing’ (n 760) 60-61, 63-64.

⁹²² De Vellis (n 735) 341-346, 348-351; Layne-Farrar et al, ‘Preventing Patent Hold Up: An Economic Assessment of Ex Ante Licensing Negotiations in Standard Setting’ (n 800) 473.

2. In line with the caselaw and enforcement agencies' positions, SSOs may consider transposing the requirement that parties should negotiate in good faith to reach FRAND terms (i.e. FRAND negotiation) into IPR policies to officially recognise that FRAND applies to the whole negotiation process, not only to the final terms. FRAND negotiation seems to suit the realities of licensing negotiations better as parties do not need to make FRAND offers right away as long as their final aim is reaching FRAND terms. In line with the *Huawei v ZTE* guidelines (and the DOJ's positions in the Business Review Letters regarding SEP pools), potential licensees should be free to challenge the validity and essentiality of SEPs whilst engaging in FRAND negotiations considering the public interest in getting patents that should not have been granted in the first place invalidated.⁹²³
3. It is also beneficial to stipulate that a FRAND royalty is a range rather than a single rate in IPR policies to avoid any unnecessary and probably premature disputes as, in theory, a party, particularly a potential licensee, who thinks the other party's initial offer is not FRAND could claim that the SEP owner has infringed its FRAND commitment. This is incompatible with the realities of patent licensing negotiation which is, by its nature, a process, and it is only normal for the parties to initially make offers above or below the finally-agreed FRAND rate (or expected finally-agreed rate) according to their negotiation strategy. Although FRAND rate calculation is outside the scope of this work, based on the decisions reviewed, it appears that when such calculations are made, it may not be possible to come up with an exact figure (i.e. a single royalty rate) that would satisfy all the experts (i.e. there may be variations), which also supports the idea that a FRAND royalty is a range, rather than a specific figure.
4. Unless there is a License-of-Right-type system attaching the FRAND commitment to SEPs instead of their owners, IPR policies should stipulate that FRAND commitments shall pass to subsequent owners of SEPs encumbered with a FRAND commitment to prevent the circumvention of commitments by subsequent SEP owners. Recognising non-members' FRAND commitment would complement this clarification and avoid any confusion.
5. As discussed in Chapter III, the EU and the US positions as to whether non-members are third-party beneficiaries of FRAND commitments diverge, so further clarification of this point by SSOs would be welcomed. SSOs should also make it clear that non-members could benefit from FRAND commitments given that the purpose of FRAND commitments is to make standards accessible for the whole industry, not only for the relevant SSOs' members.

⁹²³ *Huawei v ZTE* (n 251) [69]; DOJ, 'RFID Consortium LLC Business Review Letter' (2008) (n 308) 4; DOJ, 'Avanci Business Review Letter' (2020) (n 308) 7-8.

6. IPR policies should introduce reciprocity as a condition to benefit from FRAND commitments where the potential licensee happens to have a SEP for the same standard. This would effectively allow SEP owners, rightfully, not to honour their FRAND commitments until the potential licensee agrees to honour its commitment.

Ideally, also as Patterson and Farrell and others have argued, it should be acknowledged that with reasonable royalties, SEP owners should get a return on their technical contributions: not standardisation.⁹²⁴ This is logical as one of the main purposes of patent protection is to allow inventors to recoup their R&D investments by commercialising their patents which are the results of their investments. This reward system tries to incentivise further output (i.e. proprietary technologies) by the recoupment of inputs (i.e. R&D investments). Therefore, SEP owners should not be allowed to monetise the inclusion of their technologies into a standard which is not a direct result of the R&D investments made for the particular technology. Hence, the characterisation of a patent as SEP should not affect its royalty rate. Also, one can argue that SEP owners already increase their royalty incomes given that anyone producing a standard-compliant product needs to get a licence (i.e. increase in the number of licensees). On top of that, allowing SEP owners to inflate royalty rates just because their technology is covered by a standard would be analogous to double-dipping, hence unfair. As mentioned in Chapters II and III, calculation methods to determine reasonable royalties are beyond the scope of this work. However, valuing SEPs and at least knowing the approximate value of SEP portfolios could help determine reasonable royalties. Following Carlton's and Shampine's suggestion of using a sample of SEPs rather than valuing each SEP in a portfolio would shorten the valuation process and keep costs to a minimum.⁹²⁵

In line with the caselaw and different commentators' suggestions, including the SEP Expert Group, SSOs could openly acknowledge that non-discriminatory does not require SEP owners to offer identical terms to each licensee.⁹²⁶ The SEP licensing framework would also benefit from further guidance on the intention behind the non-discrimination concept. SSOs could refer to the primary factors the SEP Expert Group have mentioned as affecting the non-discrimination assessment rather than a theoretical definition, given that it might be easier to assess the compatibility of parties' conduct against these more practical factors. For ease of reference, the factors are: (1) whether the different terms

⁹²⁴ Patterson (n 825) 1080, 1053; Farrell (n 725) 610.

⁹²⁵ Carlton and Shampine, 'An Economic Interpretation of FRAND' (n 834) 12-13.

⁹²⁶ SEPs Expert Group (n 38) 115; Cowie (n 744) 150.

offered to different licensees disadvantage one compared to the other on the same market (i.e. similarly situated licensees); and (2) if so, whether the SEP owner could justify this difference commercially.⁹²⁷

In *Continental Automotive Systems, Incorporated v Avanci, L.L.C.*,⁹²⁸ the US Court favoured access to all, whilst there is no precedent on this point at the EU-level. So, the caselaw on the much-debated licensing in the value chain issue has been developing. Beyond theoretical discussions, it is believed that the interview participants' comments discussed in Chapter V gave a better understanding of the practical reasons behind supporting the license to all or access to all approaches and their consequences in practice. Although it may be unreasonable to expect SSOs to take a clear stance in this controversy, they may still give some thought to the issue: perhaps commission studies to form an objective opinion and investigate alternative midway solutions, as it seems that discussions would be heated even more with the increasing importance of the IoT which makes standards relevant to sectors beyond ICT. In any case, where an SSO decides to favour access to all, it can assure potential licensees that they will not face patent infringement actions by requiring SEP owners to commit not to assert their SEPs against component manufacturers (i.e. only assert them against OEMs).

Despite its shortcomings, bilateral *ex post* licensing negotiations seem more appropriate for the SEP licensing framework as collective or *ex ante* licensing negotiations could: (i) be riskier for competition/antitrust law purposes; (ii) prolong standardisation; and (iii) lower the royalties to the level of prejudicing incentives to innovate and participation in standardisation.

As mentioned above, patent pools can be considered in the context of collective licensing negotiations. Although they offer several licensing advantages, they are not popular in the SEP licensing landscape. Perhaps, as the SEP Expert Group has suggested, SSOs could consider ways to promote patent pools whilst not being involved in their formation to utilise their benefits with a minimum effort.⁹²⁹

⁹²⁷ SEPs Expert Group (n 38) 117.

⁹²⁸ *Continental Automotive Systems, Inc. v Avanci*, 27 F.4th 326 (5th Cir. 2022).

⁹²⁹ SEPs Expert Group (n 38) 162.

The landmark ruling on SEP-based injunctions, *Huawei v ZTE*,⁹³⁰ which has also influenced the US (see the Draft Policy Statement 2021 discussed in Chapter II, under Conclusion), provides a solid foundation as to the conditions under which SEP-based injunctions could be requested without abusing dominance and gives further context to the willing licensee concept. While commentators like Lemley and Shapiro have expressed opinions in line with this ruling, Osenga and National Research Council have highlighted the equitable nature of injunctions and supported the idea that they should only be granted in rare circumstances.⁹³¹ This academic support, combined with the fact that stakeholders have mostly welcomed the *Huawei v ZTE* guidelines as discussed in Chapter V, further supports the idea of transposing some of the *Huawei v ZTE* principles into IPR policies to provide further clarity as to when SEP owners could seek injunctions without violating competition/antitrust law.

Several commentators, including Kühn (former Chief Economist, DG Competition, Commission), Morton (former Chief Economist, Antitrust Division, DOJ) and Shelanski (former Director, Bureau of Economics, FTC), have noted that ADR could be a more efficient and predictable alternative to litigation: offering a one-stop-shop (i.e. eliminates the need to litigate in different jurisdictions) for SEP disputes.⁹³² Régibeau and others and Lim think mandatory arbitration would encourage parties to reach FRAND terms in bilateral negotiations.⁹³³ However, ADR has not been very popular at the SSO level, although, as mentioned in Chapter V, it seems in practice that arbitration is a preferred method for resolving bilateral disputes in SEP licensing negotiations.

SSO may consider introducing mandatory arbitration for FRAND disputes, which Eltzroth has defined as any dispute other than patent validity, infringement and injunctions, to maximise the benefits of arbitration.⁹³⁴ Rosenberg's and Berdine's suggestion of fee-shifting could also support mandatory arbitration and incentivise parties to reach FRAND terms further.⁹³⁵ Finally, the confidentiality of arbitration awards, which is seen as a downside in SEP disputes, might be mitigated by publishing a non-confidential version of

⁹³⁰ *Huawei v ZTE* (n 251).

⁹³¹ Lemley and Shapiro, 'A Simple Approach to Setting Reasonable Royalties for Standard Essential Patents' (n 806) 1141, 1142-1143; Osenga (n 816) 215; National Research Council (n 733) 111.

⁹³² Kühn et al (n 791) 4.

⁹³³ Régibeau et al, 'Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing' (n 760) 87; Lim, 'Standard Essential Patents, Trolls, and The Smartphone Wars: Triangulating the End Game' (n 18) 31.

⁹³⁴ Eltzroth (n 881) 89: Although Eltzroth carved out *essentiality* from the FRAND disputes definition, it is believed that arbitrators could deal with this issue as discussed in the final chapter.

⁹³⁵ Rosenberg and Berdine (n 887).

awards, as Eltzroth has suggested, whilst respecting the parties' legitimate confidentiality expectations.⁹³⁶

⁹³⁶ Eltzroth (n 881) 89.

CHAPTER 5 ANALYSIS OF INTERVIEWS

1 INTRODUCTION

This Chapter analyses the online survey and semi-structured interviews conducted with eleven professionals involved in standardisation. The interviews were held primarily to understand the dynamics of standardisation and test the answers to the research questions formed as a result of the review of primary and secondary sources.

As explained in Chapter I, rather than strictly adhering to the pre-set interview questions, participants were asked different questions depending on the interview flow. Also, developments after setting the questions, for instance, the increasing intensity of the discussions on the licensing in the value chain issue or the publication of the SEP Expert Group's 'Contribution to the Debate on SEPs',⁹³⁷ were considered in framing questions during interview. Naturally, not all the issues were discussed with each participant, and accordingly below it is made clear how many participants commented on any given issue as much as possible. Again, as much as possible, individual responses have been grouped into a smaller number of categories to avoid repetition. Occasionally, however, for some interesting and noteworthy comments, the grouping approach has not been followed, and individual references have been made to these.

Some participants consented to the use of their names, while some others prefer to stay anonymous. Where anonymity is required, only P[number] is used instead of the participant's name so, if they wish, readers can track the responses of the specific anonymous respondent.

As mentioned in Chapter I, due to the low response rate to the online survey, it was mainly used to form the sampling frame of the semi-structured interviews and the collected data was not analysed in detail. However, some useful insights the online survey participants provided are covered in a separate part as bullet points.

The chapter is divided into three main parts: namely Online Survey, Interviews and Conclusion analysing the preceding parts. The Interviews part is further divided into seven sub-parts: general remarks, essentiality, disclosure, FRAND commitment, *ex ante* negotiations, IPR policies and SEP-based injunctions.

⁹³⁷ SEPs Expert Group (n 38).

2 ONLINE SURVEY

The inputs from the online survey which relate to some of the points discussed with the interviewees are listed below. It is worth noting that these inputs do not necessarily represent the majority's opinion; they are mostly drawn from the additional comments made for the closed questions.

2.1. Disclosure and Essentiality

- i. A few participants commented on the difficulty of searching for potential SEPs, particularly where the member contributes to the development of several standards at the same time. One of those also stated that it is unreasonable to expect SSO members to identify their potential SEPs for a standard, if they are not attending the technical committee developing the standard.
- ii. One of the participants mentioned the controversy around disclosing unpublished patent applications, while another participant pointed out that IPR policies usually require disclosure of granted patents and patent applications (including unpublished applications).
- iii. c. 84% of the participants thought that there are members applying for patents or amending their existing patent applications considering technical information obtained during the technical standardisation process, with the aim of having these patented technologies incorporated into standards. One of the participants stated that they had instructed patent attorneys to do so in a very large telecom company.
- iv. While c. 46% of the participants believed members tend to over-disclose potential SEPs, c. 54% thought that this is not the case. Court decisions and IPR policies are seen as the reasons for over-declaration. One participant claimed that over-declaration is a natural consequence of the early disclosure obligations imposed by SSOs. They stated that when potential SEPs are declared, there is no guarantee that all these would be incorporated into the standard, and, in reality, only around 20% of those are incorporated into the standard.
- v. Several participants referred to the fact that both standards and patents/patents applications continue to evolve until their finalisation and grant respectively as one of the main reasons for over-declaration. One of them proposed to alleviate this with a twofold system: early declarations of

potential SEPs and the finalisation of provisional lists when there is more information about the standard and the patent applications.

- vi. One participant thought that the *ex ante* disclosure of royalty rates would encourage high rates.
- vii. Although the majority was of the opinion that it is reasonable to expect SSO members to search their patent portfolios to identify potential SEPs, only c. 37% thought that they have sufficient resources to do so. There was a little support for the identification of potential SEPs by SSOs, and no one thought they have the necessary resources to conduct such searches.

2.2. FRAND Commitment

- i. Only c. 23% thought that IPR policies are clear about the meaning of FRAND. Some argued that clarifying the meaning of FRAND is not a task for SSOs and, indeed, the vagueness brings flexibility. However, one of the participants explicitly stated that it would be beneficial to clarify the effect of the FRAND commitment on SEP-based injunctive relief, royalty rate calculations and dealing with willing licensees.
- ii. Again only c. 23% thought that SSO members have a clear understanding of the FRAND concept. According to a participant, different business models lead to diverging FRAND interpretations. Another participant claimed that ambiguities (including the meaning of FRAND) are sometimes exploited by some players to justify their SEP licensing practices.
- iii. Although the majority supported the view that FRAND can be defined clearly for SEP licensing purposes, in several comments the importance of having a flexible FRAND framework which comes from its vagueness was highlighted.
- iv. It seems that the majority of the participants favoured the idea that FRAND applies to the whole licensing process (i.e. FRAND negotiation) rather than only to the licensing terms.

2.3. SEP-based Injunctions

Unsurprisingly, there are diverging views on SEP-based injunctions; while some stated that SEP owners use the injunction threat to extract more favourable licensing terms, some others argued that without SEP-based injunctions, some (potential) licensees would not engage in licensing negotiations in good faith. There was also no consensus on whether SSOs should or indeed could limit SEP owners' right to seek injunctive relief.

3 INTERVIEWS

3.1. General Remarks

Before moving on to the analysis, some general remarks from the interviews, helpful to better understand standardisation, are summarised below:

- i. Standardisation is very complex, yet it is necessary, even indispensable, for the sectors which rely on interoperability (e.g. ICT). [P2] We should bear in mind that standardisation is not only relevant in the ICT sector; there are thousands of standards made for the products in other sectors, so it is not fair to say that standardisation is broken - it is not. [P7] Only telecommunication standards are problematic due to the bad players in this space. [P7] These problems are directly correlated with the lock-in effect; once a standard is set, it is almost impossible to change even where there are blatant abuses, which actually should alert competition authorities. [P7]
- ii. The ICT sector and, in parallel, the standardisation environment, has drastically changed. [P2] Particularly, the change in the SEP commercialisation approach and the transfer of some SEP portfolios to NPEs with the view of maximising royalties caused this significant shift in standardisation. [P7] NPEs present a unique challenge as they have no incentive to be reasonable on patent royalties. [P8, P7] The ICT standardisation, like the sector itself, is dynamic and continues to evolve. For example, the number of SMEs is higher in the machine-to-machine communication and IoT landscape, so we need to think about the applicability of the SEP-related decisions resulting from the disputes between big companies to these smaller companies. Instead, the ongoing discussions just focus on putting band-aids, which will be obsolete in a few years, on minor problems. 'Meaningful defining of terms and understanding is needed.' [P4]
- iii. In general, it is believed, compared to the early years of standardisation, products, and naturally patents, are way more complex today, which affects standardisation. Patent portfolios have been growing, and patents are getting longer. In the past, only a few patents read on a product; now, we talk about thousands of patents written more cryptically to disclose everything in a single patent. So, it is impossible to go through each of them and see the bigger picture with 100% accuracy. [P2]

3.2. IPR Policies

One participant [P1] described standardisation as a system based on vague rules and off-the-record communications. They acknowledged the effects of IPR policies on licensing negotiations. They supported making these policies as simple as possible since they believe that licensees could leverage complicated and stricter policies (e.g. patent hold-out).

There are opposing views on whether there is a need to clarify IPR policies further; three participants [P2, P3, P6] explicitly stated that they would welcome further clarification while another three [P5, P10, P11] disagreed with this proposition.

One participant [P2] in the automotive sector referred to the importance of stakeholders' conduct to have a healthy standardisation ecosystem and stated that IPR policies could be used to ensure they act in good faith. They believed at least having something like a code of conduct could provide some certainty and be a useful starting point. However, they do not think this would solve all the problems at once, particularly considering changing sectoral dynamics. Further clarity is needed to continue benefiting from standardisation, which allows companies to produce better products cost-effectively and contribute to consumer welfare. The participant believed end-customers would pay the ultimate bill of the dysfunctional standardisation system.

Brian Scarpelli [P6] is the Senior Global Policy Counsel of a non-profit trade association called the App Association,⁹³⁸ whose goal is to bring SME's viewpoints to public debates related to standards and SEP policy. They also think 'more granularity and specificity in SSO's IPR policies' would help businesses have the right expectations and, in general, to level the playing field. However, in reference to the backlash from some SEP owners against the IEEE IPR policy revision in 2015 and the subsequent update of the business review letter, which greenlit the policy revision by the DOJ, they do not think other SSOs would follow suit. They disapprove of the DOJ's interventionist approach, which would chill SSOs' ability to respond to their members' calls. Mr Scarpelli [P6] also added that companies are by no means obliged to be a member of an SSO; if they do not like an IPR policy of their current SSO, they are free to leave it and join another one. Another

⁹³⁸ <<https://actonline.org/about/>> accessed 29 December 2021.

participant [P11] who thinks IPR policies are clear also accepted that the consequences of not complying with an IPR policy are unknown.

Another participant [P3], who has first-hand experience of how the rules at ETSI are set up, stated that a 'small group of companies can band together to block any progress.' They called these companies *SEP monetisers*. They gave the example of when ETSI was close to restricting the use of SEP injunctions in 2013, which was blocked due to extensive lobbying activities, within ETSI and at the governments level both in Brussels and Washington DC, 'to protect a very lucrative business model.' Another participant [P7] also claimed that voting in SSOs is very biased towards SEP owners.

One of the participants [P5], who supports the idea that IPR policies are already clear enough, believes we need to trust the standardisation ecosystem, which would correct itself if the rules are unclear. They stated that stakeholders would eventually contribute to standardisation within SSOs with a stable framework and clear IPR policy.

Stefan Geyersberger [P10] is Head of Department Patents & Licensing at Fraunhofer ISS, which is the largest application-oriented research organisation of Europe and part of Institutes of the Fraunhofer-Gesellschaft.⁹³⁹ They argued that SSOs and IPR policies should be business-neutral so they can cater to the needs of members with different business practices. They also think SSOs 'should not impose strict rules or "black and white" interpretations of their policies'.

Another participant [P11] described IPR policies as a general framework to promote international technical cooperation to develop the best standards and stated that the purpose of these policies is incentivising and rewarding innovation and facilitating access to patents. They think going beyond this purpose to make standards accessible to all the stakeholders would be counterintuitive. In any case, SSOs do not have the required capacity or in-house capability to do so. Mr Geyersberger [P10] made the following statement which is along the same lines: '[t]echnical standards bodies are not equipped to address the business of licensing or licensing negotiations, and indeed are often explicitly excluded from these activities.' Kent Baker [P4], Head of Intellectual Property

⁹³⁹ <<https://www.fraunhofer.de/en.html>> accessed 5 December 2021.

at u-blox, who has been involved in standardisation for around 25 years and represented one of the big SEP owners, also approved of this view and added that 'When we had those [IPR] policy discussions, one of the things that we could agree on both on the patent holder side and the patent implementer side was [that] licensing ... was not going to be part of the policies or discussions ... [at] ETSI.' They thought this was appropriate back then where the licensing approach primarily was based on defensive licensing models, that is, *if you do not sue me, I will not sue you*.

Mr Geyersberger [P10] also commented on the potential effects of having stricter IPR policies. Firstly, they believe stricter IPR policies could potentially breach 'the principles set out in the WTO Agreement on Technical Barriers to Trade if the effect of the policy becomes exclusionary or leads to [a] dominance of interest', which could also breach competition/antitrust law. Secondly, they anticipate that companies 'decide not to participate [in standardisation] because it is simply too costly (time, money, foregoing of fundamental rights), and instead develop proprietary technologies' which would have serious interoperability consequences. Thirdly, strict rules would stifle innovation and diminish product quality. Mr Geyersberger [P10] referred to the IEEE IPR policy revision in 2015, which they describe as a 'failure arising from being too prescriptive in IPR policies'.

During interviews, the following question was asked to several participants: why do big SEP licensees like Apple, Samsung or Huawei prefer not to take an active stance against the alleged lobbying activities of the main SEP owners? One of the participants [P3] listed the reasons:

- (1) The main SEP owners' business is entirely based on SEP profits, and they would spend no matter how much to preserve the status quo;
- (2) 'it [is] just hard for companies who are focused on building the next great thing to get around their senior executives' minds that part of their business needs to be focused on preventing SEP abuse and investing in lobbyists'.

One participant [P7] added that each company, no matter how big it is, can only focus on a limited number of issues at a time, and currently, for many big SEP licensees, SEP owners' conduct is not among their top priorities. This view found support from another participant [P9].

3.3. Essentiality

The main issue discussed under the essentiality heading was over-declaration. Most participants thought, rather than under-declaration, over-declaration, which has got worse in the last ten years, is a problem. It is worth noting that not all the participants labelled over-declaration as a problem considering the possibility that potential SEP owners could be more specific about their declarations once there is more information about the standard, and this is what the declaration system requires. Another participant [P2] challenged this approach which they thought does not always work, as some SEP owners use the difficulty of updating their declarations as an excuse as they want to increase their royalties based on the number of SEPs they own. Mr Baker [P4] argued that the standardisation community needs to ensure that new SEPs are truly essential rather than trying to verify the essentiality of current SEPs to solve the over-declaration issue in the next 5-6 years. However, they noted that the current over-declaration discussions are not forward-looking. They think first, the over-declaration problem for 5G should be solved and then, the same should be done retroactively or the problem will continue to grow.

Most of the participants who commented on over-declaration referred to the proportion of SEPs that were found to be essential (and valid) in patent litigation and highlighted that this is the case, even though SEP owners rely on their strongest patents [P7]. One participant stated that only 17% of patents declared during standardisation are registered subsequently, while others suggested that only 5-20% of declared patents could survive an essentiality or validity challenge (i.e. essentiality rate) [P9, P7, P3].

The fact that standards keep changing until their finalisation, which occurs after the declaration of SEPs, and that often the scope of SEPs change during the standardisation process, is seen as one of the main reasons for later-determined over-declaration [P1, P4, P5, P10]. Thus, the participants thought that early declaration contradicts the requirement of only disclosing truly essential patents [P1, P4, P5, P10]. 'However, for standards' body [SSO] purposes, and not for licensing issue, the current declaration system works. Misusing the standards declarations data for licensing purposes is the problem.' [P4] One participant [P1] also mentioned that early disclosures generally rely on the patents' description rather than its independent claims. To illustrate the underlying cause of the early/truly essential dilemma, another participant [P5], who has been involved in standardisation since 2002, contributing to ETSI's technical working

groups and its governance, said that it takes around ten years to finalise a standard while the grant of an average patent takes around five years.

Mr Baker [P4] explained that how patents are drafted and prosecuted by a patent office could also affect essentiality and over-declaration. Essentially, it is more difficult to compare the description of the invention against the standard specification because often the description is not straightforward (e.g. not a list of steps to be followed) and assessing whether or not it is essential is challenging. They also pointed out that the difference in patent drafting in different regions and countries contribute can to over-declaration.

Some participants advocated making SEP declarations after the patent is granted and the standard is finalised [P1, P5]. One of those [P1] referred to their company's internal policy of gathering as much information as possible by attending technical working groups before declaring potential SEPs, which has been in place for ten years. This policy is based on the assumption that late declarations are potentially more relevant as they are made when there is more information about the standard and the potential SEPs which are, in particular, at the application stage. Another participant [P5] who advocated for later declarations noted that the views of engineers and lawyers drastically diverge on this point; while engineers are in favour of late but accurate disclosures, lawyers favour early disclosures despite their shortcomings.

Another reason for over-declaration is the possibility of not being able to enforce a SEP if it has not been disclosed, which is, according to some participants, the result of previous court decisions and of the bylaws of SSOs like ETSI [P1, P4]. Mr Baker [P4] also highlighted that the disclosure obligation does not require patent owners to ensure that their patents are truly essential before making declarations. Hence, they disclose their patents where they have a reasonable belief that it is a SEP, so as not to lose the opportunity to recoup their R&D investments. Mr Baker [P4], who was involved in the preparation of ETSI's IPR policy, explained the reason for this as follows:

[T]his [over-declaration] ... [was] discussed - it was known. Basically, because when you sign up, there is a good faith requirement on the way you conduct yourself. The only solution was to hope that companies would not game [the] system per se. In other words, they would do their best to file meaningful declarations. However, there was never a requirement that declarations be updated because for standards' body [SSO] purposes, it was not necessary.

Earl Nied⁹⁴⁰ [P8], who is the Program Director of Standards and IPRs for Intel, explained how SEP disclosures affect the technical development of standards in practice to illustrate that they were introduced to support the development of standards rather than their licensing. While developing standards technically, engineers are interested in knowing whether any landmine patents can block the adoption of the standard, rather than identifying each potential SEPs. Again, during standardisation, potential licensee members (generally engineers and businesspeople) want to know whether the solution will be incredibly more expensive than an alternative solution. For this, they do not need to know each potential SEP. They only want to understand whether this is a big or a minor problem. Members also need to be cautious about the extent of their discussions as collective negotiation of royalties could give rise to antitrust concerns. In summary, members developing standards technically base their decision on whether any SEP can prevent the implementation of the standard. They do not go any further and spend the time going through each SEP. Also, if they know too much about each SEP, they risk facing a treble damage claim in the US for knowingly infringing a patent. Mr Baker [P4] also thinks that the current disclosure system serves a technical purpose.

Mr Nied [P8] also stated that ETSI is one of the two SSOs that want to identify individual SEPs because of the Commission's well-intentioned but naïve view that a comprehensive SEP database could be used by SMEs to understand their potential patent liability and to identify relevant SEP owners. They believe the ETSI database can never fulfil this purpose as it was set up for the technical development of standards, not to facilitate SEP licensing. Nevertheless, patent owners still over-declare due to this unattainable goal of setting up a comprehensive SEP database. Encouraging the identification and declaration of every SEP without properly assessing its essentiality is not helpful for SMEs. It increases the likelihood of encountering patent infringement claims and injunction requests that can shut down the production of standard-complaint products.

The majority of the participants with whom the correlation between over-declaration and royalty rates was discussed confirmed that, in principle, over-declaration leads to higher royalties [P4, P7, P8]. One participant noted that some companies could use over-declaration opportunistically and drive-up royalties by creating the illusion that they have large portfolios that can stop the production/circulation of standard-compliant products

⁹⁴⁰ They made it clear during the interview and in the consent form dated 3 November 2020 that their statements are their own and do not represent their company's positions or any other entity.

[P8]. Although they agreed that SEP owners should get a return on their R&D investment, they thought that SEP owners should not be getting more than they deserve.

Another participant [P7] acknowledged the impact of over-declaration on royalty rates. They added that generally, smaller companies pay more than big ones due to their lack of, or limited, licensing experience and resources to fight SEP owners in court. They stated that in some cases, licensees, including their own company, pay more than the actual value of SEPs if they assume the costs of potential litigation (including time and money) would be higher than the royalty costs based on a cost-benefit analysis. Therefore, they do not solely focus on the actual value of the SEP portfolio but also on whether the overall deal is acceptable.

One participant [P9] who has been involved in standardisation for a while now, listed the points that parties focus on during licensing negotiations as follows: (i) technical contributions of the SEP owner; (ii) whether the SEP owner is known as one of the strong patent holders (i.e. having large SEP portfolios and being one of the known SEP licensors); and (iii) claim charts justifying the SEPs' essentiality. They [P9] stated that validity and essentiality are not considered during licensing negotiations. They confirmed that points (i) and (ii) relate to how the SEP owner is perceived in the standardisation community; SEP owners with large SEP portfolios have more leverage in the negotiations and known strong SEP owners are often not challenged. They noted that, although preparing claim charts is not an obligation, it is common for ICT standards. They stated that creating one chart takes around forty hours and requires the collaboration of different departments.

3.4. Disclosure

SEP disclosure and *disclosure of aggregate royalty rates* were discussed with the participants.

In terms of **SEP disclosure**, some participants clearly stated that searching patent portfolios to identify potential SEPs is a resource-intensive activity [P1, P3, P10, P11]. They thought introducing an express search duty (i.e. requiring members to search their portfolios diligently) might prevent the participation of members with limited resources (e.g. SMEs, universities, R&D institutes) in standardisation. One participant [P11] pointed

out that this would effectively be contrary to one of the main principles of standardisation which require SSOs to be business-model-neutral and open to everyone. Another participant [P1], who has been involved in standardisation for 20 years, stated that there were instances where they had searched their portfolios 5-6 times and still could not detect a potential SEP.

As an alternative to patent owners' disclosure of potential SEPs, one participant [P7] referred to their desire to have collaborative landscaping.⁹⁴¹ They thought the problem is that it is currently too costly for individual potential licensees to challenge the validity or essentiality of SEPs. So, often the main parameter of SEP licensing is the transaction costs (i.e. potential litigation costs) rather than the value of the proprietary technology. They believe collaborative landscaping will reveal the ultimate truth about SEPs by helping them see a snapshot of the patent situation for a standard, including identifying the most valuable ones, and this would level the playing field in SEP licensing negotiations. They claimed that collaborative landscaping would reduce the number of invalid or non-essential patents, which would, in turn, make it much easier to agree on licensing terms. However, the participant also mentioned that most big SEP owners do not want to participate in such an initiative because they benefit from the uncertainty around patent litigation.

Concerning disclosure of aggregate royalty rates, one of the participants [P2] highlighted the importance of knowing the price tag of a standard by referring to their ICT SEPs licensing experience. They compared their licensing experience in the ICT sector and other sectors (e.g. automotive) and stated that although they have some knowledge about ICT SEPs, they cannot go through large portfolios to understand their values. It is virtually impossible for some companies not in the ICT sector but using ICT standards to estimate the portfolio values. Their solution is to set aggregate royalty rates or a total royalty cap upfront and ensure that the royalties are distributed fairly among SEP owners. However, another participant [P3] argued that *ex ante* disclosure of royalty rates is not helpful as this is essentially one side articulating the value of the technology.

⁹⁴¹ Patent Landscape Reports <https://www.wipo.int/patentscope/en/programs/patent_landscapes/> accessed 2 March 2022: Patent landscaping provides an overview of the patent situation of a specific technology, either within a country, region or globally. Here the participant argues to collaborate to conduct a patent landscaping to use the sources more efficiently.

3.5. FRAND Commitment

In general, there is no consensus over the real meaning of FRAND, and some participants thought that it would be helpful to clarify its meaning [P2, P6]. Mr Scarpelli [P6] pointed out the importance of having a common understanding of FRAND and how this can be achieved if licensors and licensees work together. This common understanding could be formal or informal, as long as stakeholders adapt their behaviours accordingly. Mr Scarpelli believes that the biggest SEP licensors use the narrative that 'the FRAND commitment has no actual meaning' to disregard their commitments and maximise licensing fees.

On the other hand, another participant [P7] believes that FRAND is not vague, and indeed, it is very clear. Analogous to the electricity pricing, which changes depending on different plans, they claim that everybody needs to pay the same price for FRAND encumbered SEPs. They emphasised FRAND's safeguard function against inherent antitrust concerns in standardisation. Despite having a different view on the clarity of FRAND, Mr Scarpelli [P6] also seconded this last statement.

Three participants referred to the need for transparency to ensure the effectiveness of the FRAND commitment [P2, P6, P7]. One of them [P11], a lawyer with experience in SEP licensing, patent pools, and SSO representation, stated that parties have a duty to provide sufficient information to each other to negotiate in good faith. Another participant [P2] highlighted the need for a high level transparency so potential licensees could compare their licences with the existing ones. They also noted that the payment of different royalty rates by similarly situated licensors also has short-to-long-term effects on competition since one of them essentially had gotten preferential treatment. This view found support from another experienced standardisation professional participant [P3].

Mr Baker [P4] believes SSOs did not anticipate how SEPs are being used now and argued that transferring SEPs to NPEs is inconsistent with the whole idea behind FRAND, which was 'to facilitate cooperation, implementation and proliferation of standards while assuring a reasonable return on incurred research and design costs'. 'Participants at standards bodies [SSOs] have "skin in the standards game" and offer a variety of interactive products.' They thought such SEP transfers to NPEs result in disputes and transferor SEP owners enable these disputes to occur, contrary to their FRAND commitments.

Mr Nied [P8] explained the reasonable royalty concept in simple terms as being able to justify the royalty level with the invention value without benefitting from the other technologies incorporated into the same product. Further, Mr Baker [P4] expanded on this with a reference to wasted R&D resources. Although getting a reasonable return on R&D investment does not mean capturing the wasted resources due to bad business decisions made during R&D, they thought SEP owners do not follow this principle and try to recoup their spending on R&D unsuccessful endeavours through SEP licensing of successful projects.

Undoubtedly, patent valuation is crucial for setting reasonable royalty rates. However, the participants who commented on patent valuation had diverging views. One of them [P1] thought patent valuation does not work, while another one [P7] believes that it is possible to value patents and their values should not differ much depending on who is implementing them. Another participant [P3], who has been undertaking different responsibilities, including SEP litigation, licensing, and being a representative in SSOs, claimed that valuing SEPs is not difficult. It could be done provided that a cumulative rate for the standard is identified and the SEPs' quality is known. One participant considers calculating royalties fairly essential for alleviating over-declaration. Another participant explained the SEP value by reference to the extent it overlaps with the standard specification: SEPs covering several elements of the standard specification are more valuable than SEPs covering only a few elements, since the chances of infringing the former is higher than the latter.

Although Mr Baker [P4] seconded the view that patent valuation is possible, they argued that royalties should be set considering the number of functions enabled by the relevant technology (i.e. functionality pricing) and, if relevant, the intensity of use of the technology (i.e. intensity pricing). They think this would also solve the licensing in the value chain issue. They added that SEP owners do not favour these well-established economic principles proven to apply to SEP royalties and prefer using comparable licences as these principles would cap royalty rates.

Mr Baker [P4] described the intention behind having a requirement of non-discriminatory licensing at the time IPR policies were written as follows:

Most people interpret [non-discrimination] that as basically you have to act like a patent pool and offer the same rates and the same rights to everyone who comes to you and wants to take a license. That was never the intent of non-discrimination. What non-discrimination was really intended to do was to make sure that a company ... would enter into ... good faith negotiations with any company that asked for a license. And then the non-discriminatory part was that a FRAND license that would eventually be granted to a licensee would be similar in character to a license granted to another licensee, that is a competitor of theirs, or at least in the same general market segment. ... So that was the intent behind non-discriminatory as part of FRAND. It was not something ... related to hold[ing] up, that never came up because no one ever thought that someone would not enter into [licensing] negotiations ...

Most participants supported the idea that non-discrimination does not mean treating all licensees the same [P1, P2, P6, P9, P10, P11]. One participant [P9] stated that SEP owners could treat licensors differently as long as this does not prejudice some of them competitively. However, they also acknowledged that this is a broad concept, and it is challenging to determine comparative licences for this purpose.

Mr Geyersberger [P10] favoured approaching FRAND holistically and thought all FRAND terms should be 'determined on a case-by-case basis as there is no universal definition of FRAND.' They further stated that

[a] hard-edged approach to non-discrimination would lead to a sort of most favoured licensee clause, would be inconsistent with ETSI's rejection of a most-favourable licence clause in its policy and would give unwarranted primacy to non-discrimination as opposed to fair and reasonable.⁹⁴²

Mr Geyersberger [P10] also reiterated that the function of FRAND is not to lower royalties to a point where it is not a fair return for inventions anymore.

One participant [P11] referred to factors reducing the transaction costs of the parties, such as reporting obligations and intervals, calculation and payment method of royalties which affect the royalty rates. Also, they referred to the desire to establish a long-term relationship which can be a reason for offering different terms. Another experienced standardisation professional claimed that big SEP owners would not over-charge anybody [P5]. Over-charging is not in their interest; they want to have as many willing licensors as possible. The associate legal counsel participant repeated their claim that small

⁹⁴² Contreras and Layne-Farrar, 'Non-Discrimination and FRAND Commitments' (n 838) 189: They mentioned that ETSI's first interim policy in 1993 was withdrawn due to opposition against controversial provisions, including the most favoured licensee requirement.

companies are suffering as they pay more than big companies, although SEP owners could not in principle offer different licensing terms to similarly situated (potential) licensees [P7].

The participants had diverging views on the licensing in the value chain issue; out of seven participants who explicitly commented on this issue, three of them supported the license to all approach [P4, P7, P8] while the other three favoured the access to all approach [P5, P9, P11].

Mr Baker [P4], who is in the license to all camp, stated that the initial understanding at ETSI was that SEP owners have to enter licensing negotiations with any willing potential licensee regardless of being an ETSI member. They added that the SEP owners who refuse this interpretation today were there and accepted it. Now the same SEP owners reject the initial interpretation and claim that this is not discriminatory. Their main ground for claiming it is not discriminatory is based on contractual have-made-rights, but Mr Baker [P4] pointed out that this is not equivalent to rights directly held by a component manufacturer, as they only allow those relying on contractual rights to manufacture components based on the license granted to the OEM (i.e the end product company) which is much more limited than the rights granted to direct patent licensees. Put another way, the entities relying on have-made-rights cannot innovate to improve a product, make a product work in a given network, or make a product marketable given the cumulative nature of R&D activities. It is impossible to convince anyone to invest in an R&D project if there are no direct patent rights protecting their invention.

Mr Nied [P8] pointed out the different dynamics of different sectors and gave the automotive industry example where the suppliers are expected to negotiate patent licences. They also claimed that it is not always efficient to license OEMs. They referred to the possibility of using the reciprocity obligation, which most SSOs recognise for potential licensees who happen to be SEP owners.

The proponents of access to all claim that this approach has been the industry practice [P5, P9, P11]. One of them argued that 'it is up to the patent owner to decide who is going to get a license' and it is cost-efficient to license to OEMs [P5]. They also emphasised

that most SEPs would not read on components, including chipsets. One of them [P9] summarised the reasons why access to all has been a common industry practice as follows:

- (i) The prohibition of double licensing which prevents SEP owners from licensing the same SEP two times. Thus, SEP owners have solved this problem by licensing to OEMs as a one-stop-shop.
- (ii) The same component could be used for different purposes, and in general SEP owners do not know where the component will end up. So, it is more efficient for SEP owners to license to OEMs and not to be concerned about intermediate players (i.e. component manufacturers).
- (iii) Although those in the middle of the value chain claim to license SEPs, in reality they do not have means to pay for royalties.

Another participant [P11], who backed most of the points above, stated that access to all will be even more crucial in the IoT landscape, given that the same technology could be implemented in different areas. They reminded that the FRAND commitment only permits the use of the SEP for a particular standard rather than being a blank cheque.

3.6. Ex ante Negotiations

Two participants commented on *ex ante* negotiations of SEPs [P3, P10]. They both said that it is indeed challenging, if not impossible, to engage in licensing negotiations *ex ante* due to the lack of necessary information.

The first participant [P3] acknowledged that the *ex ante* negotiations idea is great in theory. However, it is very difficult to do so before even selling a single standard-compliant product and naturally not knowing profit margins, the SEP owners' identity, and the number of SEPs. Regarding the shortcomings of *ex ante* negotiations both for potential licensors and licensees they noted that 'it's very hard to negotiate in the vacuum and to make sure that first of all the overall amount makes sense, and second of all to make sure that the particular patent owner you are dealing with is getting the correct proportion of the overall royalties.'

Mr Geyersberger [P10] offered the following explanation as to why *ex ante* negotiations is not an advisable approach:

[i] [T]here are no standard essential patents until a standard is set.

[ii] Standardised technologies need to get some degree of maturity before licensing programs are started. It is usually not beneficial for a technology holder to engage in licensing before ... [being] clear [about] all the possible uses ... for the technology.

[iii] Essentiality of patents can only be assessed once the standard is established and each relevant patent is granted at least in one country.

[iv] There are limits in the context of standardisation work arising from competition/antitrust law rules. In accordance with competition/antitrust law ..., standard development organisations do not involve themselves in licensing discussions and should not engage in assessing whether licensing terms of participants fulfil the FRAND commitments. SDOs and their members should not put themselves in a position to discuss licensing terms before a standard is established. To do otherwise, they might place themselves at risk of breaching competition/antitrust law ...

3.7. SEP-based Injunctions

All the participants commented on SEP-based injunctive relief. Four of them thought it is proportionate to limit SEP owners' right to injunctive relief [P2, P3, P7, P8], while five participants were in favour of treating SEPs as any other patents concerning the availability of injunctive relief [P1, P5, P9, P10, P11], and two support a middle way position [P4, P6].

The proponents of limiting injunctive relief believed this is proportionate considering the FRAND commitment [P2, P3, P7, P8]. One of the participants [P2] thought injunctive relief should be the last resort stated that SEP-based injunctions could create a domino effect in supply chains. Another participant [P3] analogised injunctive relief to the death penalty to highlight that market exclusion is not proportionate to the infringement and considering the availability of alternative measures such as treble damages awarded against wilful infringers in the US. They also pointed out that SEP-based injunctive relief discourages genuine patent invalidation actions and the revocation of the patents which should never have been granted in the first place. Whilst making it clear that they were not advocating for limiting patent owners' statutory rights, Mr Nied [P8] was against leveraging injunctions to get more than the actual value of proprietary technologies. They also reiterated that injunctions should only be used if there is no other equitable remedy.

Some participants thought SEP owners' right to injunctive relief is already limited, so there is no need to limit it further [P1, P9]. Two respondents also referred to patent hold-out and claimed that limiting injunctive relief, which SEP owners should be free to use as patent owners, would only benefit strategic infringers [P5, P9]. Some participants pointed out that allowing strategic infringers to continue their business distorts overall

competition because they could allocate the resources which should have spent on royalties to other areas like marketing and, in a few years, this could disadvantage their licensee competitors [P5, P10].

One participant [P9] made it clear that SEP owners do not threaten potential licensees with injunctions and stated that, in practice, if parties are willing to reach an agreement, they will always find a way to agree on licensing terms. In their experience, litigation is an absolute last resort. Even when there is a dispute, this is generally resolved out of court: including through ADR. They noted that litigation depends on the company's strategy; companies generally go to court not to resolve the specific dispute but to reshape the system (i.e. setting a precedent).

Two participants argued that the right to seek injunctive relief, which is a fundamental right for patent owners, cannot be limited [P10, P11]. They think limiting this right would harm innovation cycles as it is virtually impossible to protect patents effectively without stopping the infringements, considering patents' short shelf-life and that damages are not an adequate remedy for infringements, especially for the long-lasting ones.

Mr Baker [P4] and Mr Scarpelli [P6], who do not belong to either of the camps mentioned above, thought SEP owners' right to injunctive relief should not be eliminated, but should only be used in rare circumstances. Mr Scarpelli [P6] stated that SEP owners give up some of their rights, including the right to seek injunctions, at least to a certain extent when they make a FRAND commitment. Mr Scarpelli believed SEP-based injunctions 'should be far rarer than' injunctions for regular patents: only available where the SEP owner can demonstrate that the potential licensee is acting unreasonably. However, he thought there is a systematic injunction-seeking across different jurisdictions as leverage in SEP licensing negotiations.

Most of the participants welcomed the *Huawei v ZTE* ruling regardless of their position on limiting SEP-based injunctive relief, which they believed provides helpful guidance for conducting SEP licensing negotiations [P3, P4, P5, P7, P8, P10, P11]. One participant [P3] thought that it is not 'good for a court to try to dictate [a] negotiating behaviour', although they agree with the underlying principles. On the other hand, a few participants were concerned with the application of this ruling in practice by the national courts [P3,

P7, P8]. Two of them referred to post-*Huawei v ZTE* German cases, which they alleged have misinterpreted the ruling [P3, P8], while another one thought the UK court has not applied the ruling properly in the *Unwired Planet v Huawei* case [P7]. These concerns relate to the fact that the principles set in *Huawei v ZTE* are open to interpretation, and further clarification is needed [P7, P8]. Despite finding the ruling a step in the right direction, Mr Baker [P4] thought it puts an onerous burden on small companies given their limited resources for negotiating SEP licences. Namely, it is not realistic and proportionate to expect small companies to respond to SEP owners in a very short time period or otherwise be considered *unwilling licensees*. They also stated that this is not in line with the common industry practice, as normally SEP licensing negotiations can take around 2 to 2 ½ years to complete.

4 CONCLUSION

The data collected in this chapter confirms that standardisation is complex yet dynamic, and it has drastically changed due to the increasing importance of interoperability and the changing business models of stakeholders. The changing dynamics of standardisation substantially affect the conduct of stakeholders and their relationship with each other. More complex standards and the number of proprietary technologies read onto them have also contributed to this evolution.

One general observation across the board is that, in principle (and unsurprisingly), the participants tended to support the view that benefits the entity they are affiliated with. As expected, the participants' position also influenced their perception of existing SEP-related issues and potential solutions. Therefore, there is a lack of agreement about the issues and how to address them, which illustrates once again how difficult it is to reconcile the views of different camps (see Chapter II for the Policy Statement updated/changed by the DOJ two times due to changes in administration).

The findings further support the idea that sustainable improvement of the SEP licensing framework could only be achieved with flexible and simple proposals that can be adapted to the changing needs of standardisation and reconcile, at least to a certain extent, stakeholders' views.

Perhaps the most interesting comment made on the standardisation system by the participants is that the system is based on vague rules and off-the-record communications. The analysis of SSO governance is beyond the scope of this work, and at the time of writing (i.e. by the cut-off date) I am not aware of any work investigating the realities of SSO governance (i.e. looking beyond their governance rules and assessing stakeholders' relationships in practice in the governance context). If this is the case, research filling this gap would inform future works proposing to improve standardisation through changes/mechanisms introduced at SSO level.

Notwithstanding the diverging views on whether reforming/clarifying IPR policies would improve the SEP licensing framework, those who are in favour of preserving the status quo do not assert that there is no SEP licensing issue; instead, they mainly rely on the original purpose of IPR policies and SSOs' reluctance to get involved in licensing to support their position. However, standardisation and the dynamics of relationships between stakeholders have changed significantly in the last 20 years or so. Indeed, as Mr Baker explained, as someone who was there whilst the ETSI IPR policy was drafted, the reason why they opted to leave SEP licensing out of the IPR policy was the mutual informal understanding that parties would try to resolve their disputes amicably, rather than by litigating. SEP disputes, in particular since the *Rambus* cases in the US, have proven that this is not the case anymore, so it is reasonable to expect the adaptation of IPR policies and, if necessary, the assumption of new functions by them to address these changing dynamics for improving standardisation. Although, in theory, it is correct that companies are not obliged to be a member of an SSO, as Mr Scarpelli has noted, relying on the fact that participation in standardisation is voluntary may not produce the desired results in an ecosystem relying on cooperation nor contribute to having a functional system that ultimately serves consumer welfare. Thus, SSOs need to find ways to update their policies considering changing realities and needs, ideally without alienating particular groups of stakeholders.

Two participants had different views on whether IPR policies should be clarified further and referred to the backlash against the IEEE IPR policy revision in 2015, proving the difficulty of reconciling views on controversial SEP issues.⁹⁴³ This suggests that SSOs should

⁹⁴³ In line with the participants' mixed views about the IEEE IPR policy revision in 2015, the literature also provides mixed evidence regarding the impact of these changes on the standardisation process at IEEE. For a study finding that the policy change has a negative impact see Kirti Gupta and Georgios Effraimidis, 'IEEE Patent Policy Revisions: An Empirical Examination of Impact' [2018] <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3173799> accessed 22 May 2022; For a study supporting the opposite see IPLytics, 'Empirical Analysis of Technical Contributions to IEEE 802

focus on the underlying causes of SEP-related licensing issues to improve the licensing framework in the mid- to long-term, rather than ban certain conduct for short-term gains. Given how challenging it is to come up with agreed solutions, this approach may prevent scapegoating and help stakeholders agree at least on fundamental principles.

One of the participants indicated that the consequences of not complying with IPR policies are unknown. In line with the caselaw, SSOs may consider clarifying this as a starting point.

The evidence collected from interviews confirmed over-declaration in standardisation. Among those who commented on this issue, none denied the over-declaration phenomenon. Although it seems more than half of the online survey participants thought that SEP owners do not over-disclose, the underlying reasoning is unknown: whether they genuinely think the essentiality rate is high, or whether they see over-declaration as a consequence of the law and SSO rules requiring early disclosure, hence not an issue. The numbers articulated for the essentiality rate (i.e. c. 20%) are pretty much in line with the numbers referred to in Chapter IV.

Based on the data collected from the interviews (and the online survey), the causes of over-declaration may be listed as follows:

1. The initial purpose of SEP disclosures is to assist the technical development of standards rather than assisting SEP licensing, so the engineers in technical groups do not review each declared patent, and SSOs do not check their essentiality;
2. Inverse proportionality of early declaration to an accurate declaration. Until a standard is finalised and a patent is granted,⁹⁴⁴ patents and standards can change, so it is generally challenging to assess essentiality during the ongoing standardisation; and
3. SEP owners fear not being able to enforce their patents unless they are declared, mainly due to *Rambus* (i.e. *the Rambus effect*).

The main consequences of over-declaration are as follows.

Standards' [2019] <<https://www.iplytics.com/report/empirical-analysis-technical-contributions-ieee-802-standards/>> accessed 22 May 2022.

⁹⁴⁴ In some jurisdictions, patents can be amended post-grant.

Higher royalties: The majority of participants confirmed the relationship between large patent portfolios primarily resulting from over-declaration and high royalty rates. It is understood that licensors with large SEP portfolios have more leverage in licensing negotiations, leading to artificially high royalties (i.e. royalties that do not reflect the actual value of the proprietary technologies). It seems this is the result of the general assumption that the probability of being prevented from producing/circulating a standard-compliant product by a SEP owner with an extensive portfolio is higher than by a SEP owner with a small portfolio. Also, potential licensees find extensive portfolios more intimidating, considering the costs associated with invalidation and infringement claims. Thus, potential licensees might prefer paying higher royalties if they expect litigation costs to be higher than royalty costs.

Diminished credibility of standardisation: The low essentiality rate affects SEP perception, and most potential licensees do not find SEP owners' numbers reliable.

As Mr Baker has suggested, although it may not be possible to fix over-declaration retrospectively, forward-looking solutions could be introduced to alleviate this gradually. SSOs may consider and implement some proposals, such as third-party essentiality checks and updating SEP declarations⁹⁴⁵ as discussed in Chapters II-IV. Besides, claim charts prepared by SEP owners for licensing negotiations may be repurposed to assess the essentiality of declared SEPs without creating an extra burden for SEP owners.

SEP disclosure in the context of an express search duty was discussed with some participants and asked of online survey participants. In light of the exacerbated over-declaration issue, this is, like under-disclosure, a historical issue, and whether SSOs should impose express search duties on their members is purely an academic query. However, where SEPs are not licensed royalty-free or there is no upfront blanket FRAND declaration, SSOs introducing safeguards to minimise over-declaration should consider the patent ambush risk, which may arise if a standard incorporates a patent not encumbered with a FRAND commitment as a result of non-disclosure.

⁹⁴⁵ One online survey participant also suggested having early *provisional* SEP declarations and then finalising provisional lists once there is more information about the standard and the patent applications.

Although disclosing aggregate royalty rates *ex ante* is an attractive idea with the potential of providing further visibility in SEP licensing, the calculation of this rate is also vital. As one participant noted, if such disclosure is based on the rates SEP owners declared, this could still lead to inflated royalties. Even if SEP owners wish to make meaningful declarations, it is also not certain whether they could do so in the early stages of standardisation without having enough information on the standard and the standard-compliant products. Perhaps, even where this suboptimum calculation method is adopted, knowing the aggregate royalty rate for a standard would enable stakeholders to judge better whether royalties are higher than expected and challenge them more comfortably.

SSOs may consider facilitating or encouraging collaborative landscaping, which one participant has suggested, if they conclude that this would improve the SEP licensing framework after a careful cost-benefit analysis. Also, the idea of collaborating within the limits of competition law/antitrust may inspire SSOs further, for instance, in implementing mechanisms facilitating collaboration among their members to fund essentiality checks, SEP portfolio valuation, and even patent invalidation claims.

There is no consensus on the meaning of FRAND and whether there should be a consensus on its meaning. While some thought that the vagueness brings flexibility necessary for SEP licensing, others claim that it could be clarified further to prevent its exploitation. In line with the EU and the US trends discussed in Chapters II-IV, the majority of the online survey participants supported the idea that FRAND applies to the whole licensing process (i.e. FRAND negotiation) rather than being criteria assessed against the final licensing terms.

It seems the initial FRAND idea, which is, in the words of Mr Baker, ‘to get along’, is outdated. SSOs may give colour to the concepts forming FRAND not necessarily by defining them literally but, for instance, by indicating the relationship between patent value and reasonable royalty rates or explaining under which conditions SEP owners could justify offering different terms to licensees, as discussed in the following paragraphs.

Regarding the meaning of reasonable, the evidence collected in this chapter supports that presented in Chapters II-IV: a royalty is reasonable if it does not benefit from the

other technologies incorporated into the product (i.e. reflects a proprietary technology's actual contribution to the product). While this indicates the correlation between the reasonable royalty concept and patent value (and valuation), the participants had diverging views on the possibility of valuing patents accurately. In any case, and even if 100% accuracy is not achievable in patent valuation, this should not be ruled out entirely, as estimated patent values could still assist parties in reaching FRAND terms.

In line with the dominant views in Chapters II-IV, most participants agreed that non-discrimination does not mean offering identical licensing terms (including royalty rates) to all licensees. Rather, it is not prejudicing some of them competitively by offering less favourable terms. The bottom line is being able to justify differences commercially. In this context, the factors that reduce transaction costs mentioned above could also be considered in the assessment to determine whether licensing terms are discriminatory.

Unsurprisingly, the participants had different views on the licensing in the value chain issue, and both camps have strong arguments. Perhaps the most noteworthy one, in terms of the general innovation landscape, is that the access to all approach limits the rights granted to suppliers (i.e. *have-made-rights*) and, hence, affects their ability to come up with follow-on inventions. Giving a definitive answer to this very controversial issue, that should be analysed carefully, is not one of the purposes of this work. However, SSOs could give some thought to this and may take a stance, perhaps after consulting with stakeholders and commissioning expert reports.

Only two participants commented on *ex ante* licensing negotiations. Their views were mainly in line with the sources discussed in Chapters II and IV. They noted that it may not be possible to engage in *ex ante* negotiations due to a lack of necessary information (e.g. the number of SEPs) before the finalisation of the standard, and potential competition/antitrust law risks, which explains why the idea did not gain enough traction in practice as well.

The main questions related to SEP-based injunctions are (1) whether it is proportionate to limit SEP owners' right to seek injunctions and (2), if so, under which conditions the right should be limited.

As mentioned above, except for two of them who support finding a midway, half of the participants thought that SEP owners' right to seek injunctions should be limited, whereas the other half claimed there is no need for limitation. The former group mainly relies on the idea that SEP owners waive their right to seek injunctions at least to a certain extent when they give a FRAND commitment and the equitable nature of injunctions, while the latter pointed out the patent hold-out risk and that it is not possible for SEP owners to protect themselves without the aid of injunctions.

Perhaps in line with the caselaw, and also considering that despite its shortcomings, the *Huawei v ZTE* guidelines seems to be welcomed by most of the stakeholders, opting for the midway solution, which is limiting SEP-based injunctions under certain conditions, could be a step in the right direction. As discussed in Chapter III, SSOs could contribute to the SEP licensing framework by providing further guidance on SEP-based injunctions to strike the right balance between the interests of SEP owners and licensees.⁹⁴⁶

Finally, it is worth mentioning the comment of one of the participants [P9] that, in practice, litigation is a last resort, and it is generally used when a party wants to reshape the legal landscape. They also added that resolving disputes through ADR during licensing negotiations is a common practice. This common practice could perhaps encourage SSOs to utilise ADR better to improve the SEP licensing framework.

⁹⁴⁶ *Unwired Planet v Huawei* (n 441) [14] and [167]: After reiterating the importance of injunctions for patent protection, the Supreme Court also confirmed that this could still be modified contractually to strike the right balance between the interests of SEP owners and licensees as long as it is not restricted unreasonably.

CONCLUSION

1 INTRODUCTION

Several studies provide evidence that SEPs are of higher value compared to other patents and might positively increase an SEP owner's financial performance. Another study shows that SEPs are litigated four times more than other patents ... These findings suggest that SEPs have a certain strategic value, which may be a reason for the constant increase over the last years ...

... However, recent challenges due to drastic changes of the ICT business environment increased complexity and debates on the use of FRAND. While standard setting in the early 90's was done by just a few big players that all had similar incentives and business models, the market has changed in recent years. New market participants who own SEPs may not earn money from selling devices anymore, but rather realize returns with patent licensing, advertisement or with constructive software applications. However, new entrants without large patent portfolios are not able to cross license and are often faced with high royalties. It is thus increasingly difficult to define a reasonable license and to determine if requested licensing fees contribute to a technology unit, a technology component or a whole product.⁹⁴⁷

Blind and Pohlmann summarise the dramatic changes in standardisation dynamics whilst highlighting the importance of SEPs in this quotation. Similarly, the preceding parts have showed how IPR policies could not deal with contemporary SEP licensing issues resulting from changing standardisation dynamics and stakeholders' practices. This final chapter mainly draws from the analyses made in Chapters II-V, and it is where I share my final answers to the research questions.

2 WHETHER REFORMING IPR POLICIES WOULD IMPROVE THE SEP LICENSING FRAMEWORK?

This is discussed in depth in the preceding chapters, particularly in Chapters II and III. IPR policies, which can be adapted to the needs of different SSOs and the changing dynamics of standardisation, seem to be the most promising candidate to help resolve the ever-changing SEP licensing issues in an ecosystem where, notoriously, stakeholders have different views. One could argue that SSOs need to ensure their policies address these issues appropriately, given that courts and enforcement agencies rely on them. As stated in Chapter IV, SSOs' responsibility is to ensure that IPR policies are stable, predictable, transparent, and effective, whilst enabling competition and facilitating innovation.

⁹⁴⁷ Knut Blind and Tim Pohlmann, 'Trends in the Interplay of IPR and Standards, FRAND Commitments and SEP Litigation' (2013) *les Nouvelles* 177, 177-179.

SSO might start to update their IPR policies by clarifying that these are binding contracts between the SSO and its members, which would encompass the FRAND commitment, and that other members are third-party beneficiaries of this contract.⁹⁴⁸ Acknowledging that IPR policies are binding contracts is in line with the US caselaw and also finds academic support as referred to in Chapter IV. This recognition is vital despite the developing caselaw shaping stakeholders' conduct, as where IPR policies are binding contracts, innocent parties can invoke contract law remedies. As discussed below, this would limit reliance on competition/antitrust law remedies and SEP-based injunctions and, perhaps, lead to a more uniform application of contractual obligations by courts in different jurisdictions.

SSOs may also consider recognising non-members as third-party beneficiaries of IPR policies. Although this would be against the court's view in *Continental Automotive Systems, Incorporated v Avanci, L.L.C.*, this would potentially unify the approach taken by the courts in different jurisdictions. This seems reasonable considering that, particularly with the increasing importance of the IoT, the effects of standardisation in ICT are felt in other sectors and where non-members need to comply with a standard, like members, they are also locked into the standard. Thus, clarifying that they are at least third-party beneficiaries of FRAND commitments, provided that they comply with certain obligation(s) prescribed in the IPR policy (e.g. see the FRAND negotiation requirement below), could help to avoid disputes.

To be clear, SSOs do not need to implement identical IPR policies, which can be tailored to their aims and members' needs as long as they facilitate access to standards efficiently whilst promoting competition and innovation. In revising IPR policies, SSOs' overarching aim should be gradually improving the SEP licensing framework to ensure its sustainability.

3 IF SO, WHAT WOULD BE THESE IPR POLICY PROPOSALS CONSIDERING COMPETITION/ANTITRUST LAW AND THEIR APPLICABILITY IN PRACTICE?

The preceding chapters, particularly their final analyses, made based on the underlying causes of SEP licensing issues referred to in Table 2 copied below, demonstrated that four fundamental changes may significantly improve the SEP licensing framework. These

⁹⁴⁸ *Unwired Planet v Huawei* (n 441) [8]: The Supreme Court recognised the binding nature of IPR policies by stating that 'The ETSI IPR Policy ... is a contractual document, governed by French Law. It binds the members of ETSI and their affiliates.'

improvements are: (1) introducing binding FRAND negotiation requirements (i.e. FRAND negotiation requirement); (2) independent third-party essentiality checks; (3) independent SEP valuation; and (4) providing further guidance as to SEP enforcement rules, particularly clarifying the conditions under which a SEP-based injunction could be requested without infringing the FRAND commitment and facilitating the use of arbitration in the resolution of SEP disputes (i.e. SEP enforcement). Colour coding is used to illustrate the impact area of these fundamental changes: on Table 2 (v2), different colours representing each fundamental change are applied to show which improvement would be expected to affect which underlying cause of SEP licensing issues. Purple represents FRAND negotiation, yellow represents independent essentiality checks, green represents independent SEP valuation, and blue represents SEP enforcement. Where the colours are applied to the main headings (e.g. Essentiality, FRAND commitment), this is to indicate that the improvement would be expected to affect all the points/questions. For example, as discussed in-depth below, it is expected that introducing independent SEP valuation would not only help assess the reasonableness of royalty rates but also would make *ex ante* disclosure of licensing terms pretty much redundant, overall make the FRAND concept clearer by giving context to reasonable, which is the most disputed FRAND concept, and help parties reach FRAND terms in licensing negotiations. Hence, the relevant fields are marked green. This chapter builds on the analyses made in the preceding chapters, focuses on the fundamental changes and aims to illustrate the potential impact of these changes on the SEP licensing framework.

Table 2 (v2)

| Sources of SEP Licensing Issues | | | | |
|---|---|--|--|---|
| Pre-FRAND (i.e. SEP disclosure stage) | | | Post-FRAND (i.e. licensing stage) | |
| Disclosure | Essentiality | FRAND commitment | Licensing negotiations | SEP owners' enforcement rights and dispute resolution |
| 3. Should SSOs favour early disclosure of potential SEPs? (<i>under-disclosure</i>) | 3. What is an essential patent? 4. How to determine truly essential patents? | 4. What is the meaning of FRAND? | 3. <i>Ex ante</i> v <i>ex post</i> ? 4. Bilateral v collective? | 3. Under which conditions should SEP-based injunctions be available? (<i>SEP-based injunctive relief</i>) |
| 4. Is it helpful to have more information about the <i>licensing terms</i> before including the proprietor tech into a standard? (<i>Ex ante disclosure of licensing terms</i>) | | 5. Reasonable 6. Non-discriminatory | | 4. Should SSOs facilitate the use of ADR/arbitration? |

Imposing a binding, contractual FRAND negotiation obligation on all members (including potential licensees) by stipulating this in IPR policies would set the framework for SEP licensing in line with the caselaw, which found support from academia and practice (see Chapters II-V). Parties would be contractually obliged to negotiate in good faith to reach FRAND terms, and wronged parties could claim breach of contract. Arguably, and in combination with other safeguards like independent SEP valuation, it would make the form (bilateral vs collective) and timing (*ex ante* vs *ex post*) of negotiations obsolete since parties would need to, regardless of the form and time, use their best efforts to agree on FRAND terms. Naturally, the FRAND negotiation requirement would give more context to the meaning of FRAND by, as discussed below, defining the steps that should be followed. Also, this requirement may lessen the need to rely on SEP-based injunctions as this contractual obligation would give SEP owners another cause of action, which may be easier to argue than claims in patent law.

As mentioned in Chapter IV, *Huawei v ZTE* defines the process that parties need to undergo before seeking a SEP-based injunction without abusing dominance. It refers to the conduct of SEP owners and potential licensees. The main idea behind this prescribed process is to facilitate uninterrupted communication between parties with the aim of reaching FRAND terms, which could guide SSOs in setting principles of FRAND negotiation to give more context to the requirement. For the avoidance of doubt, in line with *Huawei v ZTE* and the DOJ's position, and considering the public interest in getting patents which should not have been granted in the first place invalidated, SSOs should make it clear that challenging the validity (and essentiality) of SEPs does not constitute a breach of the FRAND negotiation obligation.

By using *Huawei v ZTE*, which is already followed by the majority of stakeholders, SSOs could relieve concerns like slowing down standardisation or overburdening certain groups and gain the support of more members, which is very important for most of them as they rely on members' resolutions to change their IPR policies.

The essentiality rates for declared patents (i.e. c. 20-30%), which commentators and interview participants have articulated, are concerning, particularly considering that SEP portfolio sizes and higher royalties are directly proportional. It seems independent

essentiality checks, if possible, conducted by credible patent offices (e.g. EPO, USPTO) would be the most effective solution, in particular, if it is combined with the requirement to update SEP declarations after the finalisation of standards and when there is a change in the SEP's status (e.g. invalidation, change on the protection scope) (i.e. an update requirement). Given that patent offices are organisations that all stakeholders can trust, and they can transfer their existing skills, knowledge, and experience to conducting essentiality checks, they appear to be the best candidates for the task. The details of such a system and collaboration between SSOs and patent offices are beyond the scope of this work. However, it is acknowledged that introducing this system requires careful planning considering patent offices' capabilities and resources.

The Commission's proposal, which some commentators support, of using a sample of SEPs to assess the essentiality of a SEP portfolio (see Chapters III and IV) could be followed to keep costs to a minimum and save time. Although SEP owners need to determine samples (and update SEP declarations), this would not create an extra burden as, based on the evidence discussed in Chapter V, preparing claim charts⁹⁴⁹ for licensing negotiations is already a common practice. SEP owners could also use the information regarding claim charts to determine SEP samples for valuing SEPs.⁹⁵⁰ The only extra burden for SEP owners would be determining the SEP sample within a reasonable period after finalising standards. However, this is required to enable potential licensees to cover the costs of essentiality checks, hence apportioning the costs of essentiality checks between SEP owners and potential licensees. Where a SEP owner agrees to license its SEPs royalty-free, it could be relieved from the obligation of determining samples and the update requirement.

It may make more sense to have voluntary essentiality checks to solve the issue of who will bear the costs; anyone (including potential licensees) who wants to get the essentiality checked would bear the costs. It is expected that the determination of SEP samples would help potential licensees to take the initiative of getting their essentiality checked, and they can even fund these checks collectively. Another advantage of the voluntary mechanism is the allocation of resources for weak SEPs (i.e. whose essentiality is debatable), and not spending them on SEPs which are on their face essential (and valid), considering that most stakeholders have technical teams who could make this initial

⁹⁴⁹ Documents where the essentiality of a patent is shown by presenting the mapping between each claim and the standard. SEP owners map/chart at least one claim from a patent family essential to the standard.

⁹⁵⁰ In the 2017 Communication, in reference to the *Huawei v ZTE* guideline, the Commission noted that SEP owners need to provide information on the essentiality of SEPs.

essentiality assessment. It should be possible to challenge the essentiality report and, if parties could not resolve their disagreements, submit the matter to a third party (e.g. courts, ADR). Although, in line with the principle that there is no one-size-fits-all solution, this work leaves the details of this proposal to SSOs; it is better to have a more detailed process to ensure that the system is functioning effectively. For example, if there is a mandatory internal arbitration mechanism as proposed below, an SSO could require parties to submit their dispute to the arbitrator, who could deal with it expeditiously.

Implementing essentiality checks prospectively (see Chapter V) at the expense of delaying its benefits is advisable, as incurring costs for its retroactive application may cause complications given the high number of existing SEPs and lead to members' resistance. Repurposing the essentiality checks' results (see Chapter IV) as discussed below could further justify the allocation of resources to this.

The level of royalties is one of the leading causes of FRAND disputes. Also, disagreements on FRAND terms are among the main reasons for triggering SEP-based injunctions. Consequently, proposals like *ex ante* disclosure of licensing terms or *ex ante* licensing negotiations aim to obtain more information on potential royalties before the industry is locked into the standard, to level the playing field between SEP owners and licensees. Thus, facilitating the valuation of SEPs by independent third parties could assist SEP licensing negotiations, reduce the number of FRAND disputes and the reliance on SEP-based injunctions. The argument that reasonable royalties should reflect the value of the proprietary technology, which finds support in the EU and the US, also justifies valuing SEP portfolios.

SSOs could tweak the system according to their members' needs and sources. However, one option would be to follow the suggestions made for essentiality checks above, which can be summarised as follows: (1) using SEP samples for valuation; (2) a voluntary system where anyone who wants to get the portfolio valued would cover the costs and allowing collective funding; (3) the valuation report could be challenged, ideally, by submitting another report prepared by an independent third party; (4) if parties could not agree on the valuation amicably, they should be free to request the involvement of a third party for dispute resolution; and (5) the system should be applied prospectively.

At least knowing the approximate value of SEP portfolios could help determine reasonable royalties. Licensees might further use this data in conjunction with their rivals' prices to challenge discriminatory royalty rates. This could disincentivise SEP owners from offering different royalty rates to similarly situated licensees unless they can commercially justify the difference. Availability of this data and calculating royalties based on SEP portfolio values might also alleviate SEP owners' concern about not being fairly remunerated when they do not know where the licensed component will end up (see Chapter V for the concerns). Besides, if the majority of SEP portfolios related to a standard are valued, this information could be used to estimate the aggregate royalty rate for the standard to alleviate royalty stacking.

The cases discussed in Chapters II and III and the evidence presented in Chapters IV and V have showed that SEP-based injunctions are one of the most controversial issues in standardisation. I believe the main aim should be to reduce reliance on injunctions by introducing mechanisms to assist parties in SEP negotiations and help them agree on FRAND terms. Indeed, imposing a FRAND negotiation obligation on all members and the valuation of SEPs by independent third parties, as discussed above, could reduce the number of SEP-based injunctions. However, the controversial nature of SEP-based injunctions cannot be ignored completely, and it is believed that SSOs should take action to strike the right balance between the interests of SEP owners and potential licensees.

As suggested in Chapter III, SSOs may consider transposing principles from the *Huawei v ZTE* guidelines to make them contractual obligations for both parties. This, like clarifying the binding nature of IPR policies, would allow innocent parties to invoke contract law claims in different jurisdictions and lead to a more uniform application of contractual obligations by courts globally, which would minimise forum shopping. If an SSO introduces the FRAND negotiation requirement in line with *Huawei v ZTE*, a reference could be made to this requirement to clarify the conditions under which SEP owners could seek injunctions. Furthermore, a mandatory internal arbitration, discussed next, could complement the contractual principles of SEP-based injunctions.

The final proposal, which would complement all the other fundamental changes discussed above, is introducing an internal arbitration mechanism, which would be mandatory for resolving FRAND disputes (defined as any dispute other than patent validity, infringement

and injunctions, see Chapter IV).⁹⁵¹ Given the widespread use of arbitration for resolving disputes in licensing negotiations (see Chapter V), it is not expected that introducing such a mechanism would cause any concerns among SSO members or overburden certain groups.

The envisaged arbitration panel would be designed to deal with heterogeneous and fact-sensitive FRAND disputes expeditiously, which could level the playing field in licensing negotiations, particularly in favour of small- and medium-size parties.⁹⁵² As some commentators suggested (see Chapter IV), mandatory arbitration could also encourage parties to agree on FRAND terms in bilateral negotiations. Another advantage of having an internal arbitration system is that it would help the arbitrators deepen their expertise and experience in FRAND disputes and, consequently, make decisions accepted broadly by SEP owners and licensees.⁹⁵³ This point also relates to the issue of whether allowing parties to challenge arbitration awards would neutralise its advantages, as it is believed that if the arbitration awards are high-quality (i.e. rarely reversed by courts), eventually, parties would only challenge them where they firmly believe that the arbitrator/panel has erred (i.e. rather than with the intention of delaying resolution).

Like the other proposals, SSOs should be free to design the details of their internal arbitration mechanisms. Perhaps, they could benefit from Guidance on WIPO FRAND Alternative Dispute Resolution (ADR) to the extent it is aligned with their objectives.⁹⁵⁴ However, to be clear, it is believed that potential licensees should be able to challenge the validity of SEPs and SEP owners should be able to seek injunctions whilst pending arbitration proceedings to ensure that the existence of arbitration would not (i) delay the invalidation of patents that should not have been granted or (ii) undermine the patent protection.

Considering the semi-mandatory nature of the proposed arbitration mechanism and the Commission's statement, referred to in Chapter III, that ADR cannot be mandatory for resolving SEP disputes, revisiting this statement and confirming mandatory arbitration's

⁹⁵¹ Internal arbitration would be voluntary for disputes other than FRAND disputes.

⁹⁵² Picht (n 521) 374.

⁹⁵³ SEPs Expert Group (n 38) 145.

⁹⁵⁴ WIPO Arbitration and Mediation Center, 'Guidance on WIPO FRAND Alternative Dispute Resolution (ADR)' [2021] <<https://www.wipo.int/export/sites/www/amc/en/docs/wipofrandadrguidance.pdf>> accessed 19 February 2022.

compatibility with EU law would provide the necessary comfort to SSOs wishing to introduce such a mechanism.

The final point related to SSOs' approach to revising IPR policies is that they need to be concerned with the sustainability of standardisation in the long run rather than pleasing certain stakeholders. This does not mean SSOs should not listen to their members at all; on the contrary, they should always consider valid concerns. However, they also need to think about the long-term benefits of having a stable framework to move forward, which may require them to bear short-term costs. Therefore, unless the concerns are objectively reasonable, SSOs should favour their long-term goal of providing a stable and well-functioning SEP licensing framework, and, if necessary, they should not refrain from making IPR policies stricter.

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In the Matter of Rambus Incorporated, 9302 (2007) (Order Granting in Part and Denying in Part Respondent's Petition for Reconsideration of the Final Order and

Granting Complaint Counsel's Petition for Reconsideration of Paragraph III.C. of the Final Order)

Robert Bosch GmbH, 155 F.T.C. 713 (2013)

EU JUDGEMENTS

Bayer AG v Commission EU:T:2000:242 (T-41/96)

Hoffmann-La Roche & Co AG v Commission EU:C:1979:36 (85/76)

Huawei v ZTE [2015] ECLI:EU:C:2015:477 All ER (D) 237 (Jul) (C-170/13)

Huawei v ZTE [2014] ECLI:EU:C:2014:2391, Opinion of AG Wathelet

IMS Health GmbH & Co OHG v NDC Health GmbH & Co KG EU:C:2004:257 (C-418/01)

Microsoft Corporation v European Commission EU:T:2007:289 (T-201/04)

P RTE & ITP v Commission EU:C:1195:98 (C-241-242/91)

United Brands v Commission EU:C:1978:22 (27/76)

EUROPEAN COMMISSION DECISIONS AND RELATED DOCUMENTS

Commission decision of 28 November 2011 setting up the European multi-stakeholder platform on ICT standardisation [2011] OJ C 349/4

ETSI Interim IPR Policy (Case no IV/35.0006) [1995]

Motorola Enforcement of GPRS Standard Essential Patents (Case AT.39985)

Memo/13/403 [2013]

Prohibition Decision [2014]

Summary Decision [2014] OJ C344/6

Press Release IP/14/489 [2014]

Nokia/Bosch (Case no 39615) Memo/09/549 [2009]

Rambus (Case COMP/38.636)

Memo/07/330 [2007]

Memo/09/273 [2009]

Memo/09/544 [2009]

Final Commitments [2009]

Commitments Decision [2009]

Rejection Decision [2010]

Samsung - Enforcement of UMTS standard essential patents (Case AT.39939)

Report of the Hearing Officer [2014]

Memo/13/910 [2013]

Memo/14/322 [2014]

Final Commitments [2014]

Commitments Decision [2014]

Sun/ETSI (Case no. 37926)

Texas Instruments/Qualcomm (Case AT.39247)

Memo/07/389 [2007]

Memo/09/516 [2009]

UK JUDGEMENTS

Unwired Planet International Ltd v Huawei Technologies Co. Ltd, Huawei Technologies (UK) Co. Ltd. [2017] EWHC 711 (Pat), 2017 All ER (D) 108 (Apr)

Unwired Planet International Limited v Huawei Technologies Co. Limited [2017] EWHC 2988 (Pat), [2017] RPC 19

Unwired Planet v Huawei [2020] UKSC 37 [2021] 1 All ER 1141



College of Social
Sciences

21 July 2019

Dear Nazli Cansin Karga

College of Social Sciences Research Ethics Committee

Project Title: Can a Substantial Reform of Standard Setting Organisations' IPR Policies Eliminate (or at Least Minimise the Risk of) Patent Holdup?

Application No:

The College Research Ethics Committee has reviewed your application and has agreed that there is no objection on ethical grounds to the proposed study. It is happy therefore to approve the project, subject to the following conditions:

- Start date of ethical approval: 21/07/2019
- Project end date: 31/12/2021
- Any outstanding permissions needed from third parties in order to recruit research participants or to access facilities or venues for research purposes must be obtained in writing and submitted to the CoSS Research Ethics Administrator before research commences. Permissions you must provide are shown in the *College Ethics Review Feedback* document that has been sent to you as the Collated Comments Document in the online system.
- The data should be held securely for a period of ten years after the completion of the research project, or for longer if specified by the research funder or sponsor, in accordance with the University's Code of Good Practice in Research: (https://www.gla.ac.uk/media/media_490311_en.pdf)
- The research should be carried out only on the sites, and/or with the groups and using the methods defined in the application.
- Any proposed changes in the protocol should be submitted for reassessment as an amendment to the original application. The *Request for Amendments to an Approved Application* form should be used: <https://www.gla.ac.uk/colleges/socialsciences/students/ethics/forms/staffandpostgraduateresearchstudents/>

Yours sincerely,

Dr Muir Houston
College Ethics Officer

Muir Houston, Senior Lecturer
College of Social Sciences Ethics Officer
Social Justice, Place and Lifelong Education Research
University of Glasgow
School of Education, St Andrew's Building, 11 Eldon Street
Glasgow G3 6NH

Consent Form

Title of Project: Can a Substantial Reform of Standard Setting Organisations' IPR¹ Policies Eliminate (or at Least Minimise the Risk of) Patent Holdup?

Name of Researcher: Nazli Cansin Karga

Consent:

I confirm that I have read and understood the Participant Information Sheet for the above study and have had the opportunity to ask questions.

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.

I consent to interviews being audio-recorded.

Confidentiality:

I consent that my name can be used by the researcher.

If you do not consent this by ticking the box, you will not be named in any material arising from the research.

I consent that my statements (including by way of direct quotation) can be used by the researcher.

If you do not consent this by ticking the box, your statements (i.e. direct quotation) will not be used in any material arising from the research.

I agree that the copyright on the interview transcripts belong to the researcher.

Please state if you have any individual requirements in terms of the usage of your name and/or statements by the researcher (e.g. I want to see the statement that the researcher is planning to use before it is incorporated into the main text):

Data usage and storage:

- All names and other material likely to identify individuals in interview transcripts will be deidentified (i.e. pseudonymisation).
- The material will be treated as confidential and kept in secure storage at all times.
- The nonpersonal and deidentified data will be retained in secure storage for ten years as of the completion of the project to support the current research and use in future academic research.

¹ Intellectual property rights

- The material may be used in future publications, both print and online.
- I agree to waive my copyright to any data collected as part of this project.
- I understand that other authenticated researchers will have access to this data, only after they get the University of Glasgow College of Social Science Ethics Committee ethics approval, in line with the participants' consents.
- I understand that other authenticated researchers may use my words in publications, reports, web pages, and other research outputs, only after they get the University of Glasgow College of Social Science Ethics Committee ethics approval, in line with the participants' consents.

I agree to take part in this research study

I do not agree to take part in this research study

Name of Participant Signature

Date

Name of ResearcherSignature

Date

Participant Information Sheet

Title of Project: Can a Substantial Reform of Standard Setting Organisations' IPR¹ Policies Eliminate (or at Least Minimise the Risk of) Patent Holdup?

Name of Researcher: Nazli Cansin Karga (School of Law)

Email address:

You are being invited to take part in a research study. Before you decide, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask the researcher if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

Thank you for reading this.

Purpose of study:

The interview is part of a study which is about the patent hold-up problem and focuses on the question of whether reforming SSOs² IPR policies can eliminate or minimise the risk of patent hold-up'.

The aim of the interview is to test the applicability of the reform suggestions that are made for SSOs' IPR policies in practice. The outcome of the interview will help the researcher to understand the approach of SSO members towards the problem, the efficiency of potential solutions and whether SSOs and their members have the resources to implement them.

Participation is voluntary and you are free to withdraw at any time, without giving any reason. In case of withdrawal any personal data collected from you will be disposed of immediately.

This is a face to face/telephone (e.g. *Zoom*) interview which will take around 30 minutes.

Protection of personal data:

Except for the audio-recordings, anything that can be used to identify participants (e.g. name, title, position) in any material (e.g. interview transcripts) will be replaced by codes to ensure deidentification of the data (i.e. pseudonymisation).

During the project only the researcher will have access to the personal data, codes' keys and only with the researcher's permission, the supervisors (i.e. Prof Thomas Guthrie and Prof Mark Furse) will access them occasionally. Upon the completion of the project, all the nonpersonal and deidentified data will be stored in Enlighten: Research Data in line with the Code of Good Practice in Research. All the personal data (e.g. audio recordings of interviews) and the codes' keys will be securely and permanently deleted upon the completion of the project.

¹ Intellectual property rights

² Standard Setting Organisation

Only upon acquiring the participant's specific written confirmation, his/her name will be used.

Only upon acquiring the participant's specific written confirmation, his/her statement will be directly quoted.

Confidentiality:

Confidentiality will be respected unless there are compelling and legitimate reasons for this to be breached. We would inform you of any decisions that might limit your confidentiality.

The data that is collected will be used in the PhD thesis of the researcher and may be disseminated as journal articles, conference papers, written summary of results to a participant upon his/her request and/or a book.

The data will be stored in the University of Glasgow's storage.

The nonpersonal and deidentified data will be kept for ten years from the submission of thesis.

The nonpersonal and deidentified data will be available to other organisations and individuals for future reuse.

Personal data and the data that can be identified using the codes' keys (i.e. turn to be personal data) will be available to other authenticated researchers during the project, only after they get the University of Glasgow College of Social Science Ethics Committee ethics approval, in line with the participants' consents.

In terms of protection of confidentiality, the University of Glasgow's best practice advice will be followed. You can access the advice through the following link;
<https://www.gla.ac.uk/myglasgow/it/informationsecurity/confidentialdata/>

The researcher will provide the final manuscript of the thesis to a participant upon his/her request.

Ethical approval and complaint procedure:

The project has been considered and approved by the College of Social Sciences Research Ethics Committee.

Anyone with concerns regarding the conduct of the project can contact the College of Social Sciences Ethics Officer, **Dr Muir Houston, email:**

Participant Information Sheet

Title of Project: Can a Substantial Reform of Standard Setting Organisations' IPR¹ Policies Eliminate (or at Least Minimise the Risk of) Patent Holdup?

Name of Researcher: Nazli Cansin Karga (School of Law)

Email address:

You are being invited to take part in a research study. Before you decide, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask the researcher if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

Thank you for reading this.

Purpose of study:

The questionnaire is part of a study which is about the patent holdup problem and focuses on the question of whether reforming SSOs² IPR policies can eliminate or minimise the risk of patent holdup.

The aim of the study to test the applicability of the reform suggestions that are made for SSO's IPR policies in practice. The outcome of the questionnaire will help the researcher to understand the approach of SSO members towards the problem, the efficiency of potential solutions and whether SSOs and their members have the resources to implement them.

Participation is voluntary and you are free to withdraw at any time, without giving any reason. In case of withdrawal any personal data collected from you will be disposed of immediately.

The questionnaire is an online survey designed to be completed around 10 minutes.

Protection of personal data:

The researcher will not know the identity of participants as the participants do not need to provide any personal identification. Thus, all the participants will be completely anonymous except in the case where the participant provides personal information in the optional comment section of the questions or the contact details that will be provided if the answer to the question 15, 'Would you be happy to be contacted further for an interview?' is affirmative. These information will be replaced by codes (i.e. deidentification, pseudonymisation), to which the researcher retains the keys in a secure location. During the project only the researcher will have access to the codes' keys and only with the researcher's permission, the supervisors (i.e. Prof Thomas Guthrie and Prof Mark Furse) will access them occasionally. Upon the completion of the project, the codes' keys will be securely and permanently deleted and the rest of the data (i.e. nonpersonal or deidentified) will be stored in Enlighten: Research Data in line with the Code of Good Practice in Research.

¹ Intellectual property rights

² Standard Setting Organisation

Confidentiality:

Confidentiality will be respected unless there are compelling and legitimate reasons for this to be breached. We would inform you of any decisions that might limit your confidentiality.

The data that is collected will be used in the PhD thesis of the researcher and may be disseminated as journal articles, conference papers, written summary of results to a participant upon his/her request and/or a book.

The data will be stored in the storage of the University of Glasgow.

The nonpersonal and deidentified data will be kept for ten years from the submission of thesis.

The nonpersonal and deidentified data will be available to other organisations and individuals for future reuse.

The personal data and the data that can be identified using the codes' keys (i.e. turn to be personal data) will be available to other authenticated researchers during the project, only after they get the University of Glasgow College of Social Science Ethics Committee ethics approval, in line with the participants' consents.

In terms of protection of confidentiality, the University of Glasgow's best practice advice will be followed. You can access the advice through the following link;
<https://www.gla.ac.uk/myglasgow/it/informationsecurity/confidentialdata/>

The researcher will provide the final manuscript of the thesis to a participant upon his/her request.

Ethical approval and complaint procedure:

The project has been considered and approved by the College of Social Sciences Research Ethics Committee.

Anyone with concerns regarding the conduct of the project can contact the College of Social Sciences Ethics Officer, **Dr Muir Houston, email:**

Privacy Notice for the PhD research project: “Can a Substantial Reform of Standard Setting Organisations’ IPR Policies Eliminate (or at Least Minimise the Risk of) Patent Holdup?”

Your Personal Data

The University of Glasgow will be what’s known as the ‘Data Controller’ of your personal data processed in relation to the research project “**Can a Substantial Reform of Standard Setting Organisations’ IPR Policies Eliminate (or at Least Minimise the Risk of) Patent Holdup?**”

The aim of the study is to test the applicability of the reform suggestions that are made for SSO’s IPR policies in practice. The outcome of the questionnaire and interview process is to help the researcher to understand the approach of SSO members towards the problem, the efficiency of potential solutions and whether SSOs and their members have the resources to implement them.

This privacy notice will explain how the University of Glasgow will process your personal data.

Why we need it?

In the initial stages of the research we will be issuing participants with a questionnaire. As such, we will be collecting your basic personal data such as email address and contact details. The questionnaire holds several free text fields. We will collect all personal data that you volunteer as part of your answers.

If you opt to give us your contact information in order to be interviewed as part of this project we will process your data to facilitate the interview. Interviews will be conducted through a software package called Zoom which will record the audio of the interview. We will collect all personal data that you volunteer as part of your interview answers.

We will only collect data that we need for the PhD research.

Legal basis for processing your data

We must have a legal basis for processing all personal data. As this processing is for Academic Research we will be relying upon **Task in the Public Interest** in order to process the basic personal data that you provide. For any special categories data collected we will be processing this on the basis that it is **necessary for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes**.

In order to fulfil our ethical obligations, we will ask for your **Consent** to take part in the study however **this will not form part of our legal basis for processing your data.**

What we do with it and who we share it with?

- All the personal data you submit is processed by staff and the researcher (Nazli Cansin Karga) at the University of Glasgow in the United Kingdom.
- Any personal data collected through the questionnaire and that is in the interview transcripts will be pseudonymised by replacing them with codes to which the researcher retains the keys in a secure location. During the project only the researcher will have access to the code keys and only with the researcher’s permission, the supervisors (i.e. Prof Thomas Guthrie and Prof Mark Furse) will access them occasionally. Upon the completion of the project, all data will be stored in the Universities Research Database in line with the Code of Good Practice in Research.
- If you choose to participate in the interview process the audio of your interview will be transcribed by the researcher. No third parties will have access to this data.
- The audio recording of your interview will be retained during the lifetime of the project. Only the researcher will have access to these recordings and only with the researcher’s permission, the supervisors (i.e. Prof Thomas Guthrie and Prof Mark Furse) will access them occasionally. Upon the completion of the project, the audio data will be securely deleted.

- Any personal electronic devices of the researcher (e.g. computer, smart phone) through which she can access the personal data collected in scope of the PhD research are encrypted and password-protected.
- Personal and pseudonymised data will be available to other authenticated researchers during the project, only after they get the University of Glasgow College of Social Science Ethics Committee ethics approval, in line with the participants' consents.

How long do we keep it for?

Your data will be retained by the University for 10 years from submission of the PhD thesis. After this time, data will be securely deleted.

What are your rights?

GDPR provides that individuals have certain rights including: to request access to, copies of and rectification or erasure of personal data and to object to processing. In addition, data subjects may also have the right to restrict the processing of the personal data and to data portability. You can request access to the information we process about you at any time.

If at any point you believe that the information we process relating to you is incorrect, you can request to see this information and may in some instances request to have it restricted, corrected or, erased. You may also have the right to object to the processing of data and the right to data portability.

Please note that as we are processing your personal data for research purposes, the ability to exercise these rights may vary as there are potentially applicable research exemptions under the GDPR and the Data Protection Act 2018. For more information on these exemptions, please see <https://www.gla.ac.uk/myglasgow/dpfoioffice/a-ztopics/research/#/>

If you wish to exercise any of these rights or wish further information, please contact dp@gla.ac.uk.

Complaints

If you wish to raise a complaint on how we have handled your personal data, you can contact the University Data Protection Officer who will investigate the matter.

Our Data Protection Officer can be contacted at dataprotectionofficer@glasgow.ac.uk

If you are not satisfied with our response or believe we are not processing your personal data in accordance with the law, you can complain to the Information Commissioner's Office (ICO) <https://ico.org.uk/>

Contact details

Name of Researcher: Nazli Cansin Karga **Email address:**

PATENT HOLDUP QUESTIONNAIRE

| | | | |
|---|--------------------------|-------------------------|--|
| I. WHO ARE YOU?¹ | | | |
| 1. How would you identify the undertaking that you are working for/representing in the SSO(s) ² ? | | | |
| Innovator ³ | Implementer ⁴ | I am working for an SSO | Other - Please specify ... |
| 2. How would you identify your background? <i>[possible to choose more than one answer and please specify if you are undertaking more than one role]</i> | | | |
| Technical ⁵ | Legal ⁶ | Economist ⁷ | Management ⁸ Other - Please specify ... |
| II. WHAT DO YOU THINK ABOUT THE CAUSES OF PATENT HOLDUP⁹? | | | |
| 3. (a) Do you think that IPR policies ¹⁰ set SSO members' search duties ¹¹ clearly? | | | |
| Yes | No | | |
| Comment | | | |
| 3 (b) Do you think that SSO members adequately perform their search duty? <i>[i.e. whether they take reasonable care to identify potential SEPs¹²]</i> | | | |
| Yes | No | | |
| Comment | | | |
| 4. (a) Do you think that IPR policies are clear about the timing of the disclosure of potential SEPs by members? <i>[i.e. whether members are certain when they can declare their potential SEPs at the latest, during the standardisation process]</i> | | | |
| Yes | No | | |
| Comment | | | |

¹ These are the main headings of the issues I would like to investigate. They won't be on the survey. I used them here to make it easier to follow the questions.

² **Standard Setting Organisation:** Private organisation setting standards and open to all undertakings.

³ **Innovator:** Patent owners. Licensor.

⁴ **Implementer:** Undertakings that need a patent license to produce a standard-compliant product where the standard incorporates a SEP. Licensee.

⁵ **Technical background:** Persons who mostly deal with the technical aspects of standardisation activities. E.g. engineers. Patent attorneys who have science degree should be considered in this category.

⁶ **Legal background:** Persons who mostly deal with the legal aspects of standardisation activities. E.g. lawyers.

⁷ **Economist:** Persons who have a degree in economics.

⁸ **Management background:** Persons who have a management degree.

⁹ **Patent holdup:** Ability of the SEP owner to extract more advantageous licensing terms than they could have obtained before the technology was incorporated into a standard.

¹⁰ **IPR policy:** Rules set by SSOs and governing intellectual property rights (IPRs - particularly patents) that are (potentially) incorporated into a standard.

¹¹ **Search duty:** Duty imposed on SSO members by SSOs (particularly through IPR policies) to search their patent portfolios to identify any potential SEPs during the standardisation process.

¹² **SEP:** Patented innovation that should be implemented to comply with a standard.

| | | |
|---|----|--|
| <p>4 (b) Do you think SEP members disclose their potential SEPs in a timely manner? <i>[i.e. whether the SSO/SSO members has/have sufficient time and opportunity to assess whether the disclosed patent should be incorporated into the standard given the timing of the disclosure]</i></p> | | |
| Yes | No | |
| Comment | | |
| <p>5. (a) Do you think that IPR policies are clear about the scope of the disclosure duty of their members? <i>[i.e. whether members are certain what they should disclose, during the standardisation process; registered patents, published patent applications, unpublished patent applications, not filed patent applications, published amendments to the registered patents, unpublished amendments to the registered patents]</i></p> | | |
| Yes | No | |
| Comment | | |
| <p>5 (b) Do you think SEP members try to identify any potential SEPs in good faith and with reasonable care? <i>[i.e. whether SSO members identify and disclose any patents that can be incorporated into a standard given the scope of their disclosure duty]</i></p> | | |
| Yes | No | |
| Comment | | |
| <p>5 (c) Do you think there are members making patent applications and/or amending their existing patents with the intention of having them incorporated into standards, with the hindsight of technical information obtained during the standard setting process?</p> | | |
| Yes | No | |
| Comment | | |
| <p>5 (d) Do you think there is an <i>over disclosure</i>¹³ tendency among SSO members?</p> | | |
| Yes | No | |
| Comment | | |
| <p>6. (a) Do you think that IPR policies are clear about the meaning and interpretation of <i>FRAND</i>¹⁴? <i>[i.e. clear about what constitutes 'fair', 'reasonable' and 'non-discriminatory' as well as its application scope (i.e. whether it is only applicable to SEP licensing terms or also to the licensing negotiation process)]</i></p> | | |

¹³ **Over disclosure:** Disclosing patents that are not related to the standard.

¹⁴ **Fair, Reasonable and Non-discriminatory (FRAND):** Undertaking given by potential SEP owners to SSOs before their patents incorporated into a standard. With this undertaking, the potential SEP owner assure the SSO that they will grant a license to anyone on fair, reasonable and non-discriminatory terms if the patent is incorporated into the standard.

| | | |
|--|---|---|
| Yes | No | |
| Comment | | |
| 6 (b) Do you think that SSO members are clear about the meaning and interpretation of FRAND? | | |
| Yes | No | |
| Comment | | |
| 6 (c) Do you think that it is possible to define FRAND clearly for the purpose of SEP licensing? <i>[i.e. whether defining it rigidly can cause some problems as it should be interpreted considering the circumstances of each individual case]</i> | | |
| Yes | No | |
| Comment | | |
| 6 (d) Do you think that FRAND is only applicable to SEP licensing terms or also to the parties pre-licensing attitudes (e.g. negotiation process)? <i>[whether parties should adhere to FRAND principles while negotiating SEP licensing terms or it is sufficient to grant a license on FRAND terms regardless of their pre-licensing attitudes]</i> | | |
| FRAND is only applicable to licensing terms | | FRAND is applicable to licensing terms as well as parties pre-licensing attitudes |
| Comment | | |
| 7. (a) Do you think that SEP owners who give a FRAND undertaking use their rights of requesting/getting an interim injunction and/or taking a (patent) infringement action appropriately? | | |
| Yes | No | |
| Comment | | |
| 7 (b) Do you think that IPR policies should limit SEP owners' rights to request/get an interim injunction and/or take a (patent) infringement action, where they give a FRAND undertaking? | | |
| Yes | No | |
| Comment | | |
| III. WHAT DO YOU THINK ABOUT THE POTENTIAL SOLUTIONS FOR PATENT HOLDUP? | | |
| 8. Do you think that it is possible to solve patent holdup? | | |
| Yes | No <i>[choosing 'No' will directly move to 'Miscellaneous Questions']</i> | |
| Comment | | |

| | | |
|--|-------|----------|
| 9. Who, do you think, can/should solve patent holdup? <i>[possible to choose more than one answer]</i> | | |
| SSOs (e.g. through reforming their IPR policies, with facilitating a collaboration between SSO members) | | |
| Competition Authorities (e.g. through their decisions, guidelines) <i>[Thoses choosing one of the last three options will directly move to 'Miscellaneous Questions']</i> | | |
| Courts (i.e. through court orders) | | |
| Legislature (i.e. through enacting laws) | | |
| Comment | | |
| 10. Please select the potential IPR policy provisions given below, that can reduce the risk of patent holdup? | | |
| <i>'Members must search their patent portfolios as soon as they are informed about the proposed standard's 'technical features', with reasonable care.'</i> (search duty) | | |
| <i>'Members must disclose all their potential SEPs (including registered patents, published and unpublished patent applications, amendments, unfiled patent applications/amendments).'</i> (scope of disclosure) | | |
| <i>'Members must disclose their potential SEPs in a timely manner (enabling the other members to assess whether the patent should be included by considering its technical superiority).'</i> (timely disclosure) | | |
| <i>'Owners of potential SEPs must disclose their royalty range while giving FRAND undertaking.'</i> | | |
| <i>'SEP owners, that give FRAND undertaking, must take necessary steps (e.g. informing the alleged infringer about the infringement, attempt to solve the issue amicably) before petitioning to a court for an interim injunction and/or (patent) infringement action.'</i> (limiting patent owners' right) | | |
| Comment | | |
| 11. What is your position in terms of the following statements? | | |
| Defining the general principles underlying FRAND and its application scope will reduce the risk of patent holdup | Agree | Disagree |
| Do you think that introducing a direct remedy (e.g. requiring SEP owners to license their SEPs for free of charge) against SSO members that breach one of the provisions provided in Q10 would help to reduce the risk of patent holdup? | Agree | Disagree |

| | | |
|--|-------|----------|
| Comment | | |
| 12. What is your position in terms of the following statements? | | |
| It is reasonable to expect SSO members to search their patent portfolios thoroughly to identify potential SEPs despite the extent of those portfolios | Agree | Disagree |
| SSO members have sufficient sources (e.g. human, technical means) to fulfil their search duty with reasonable care | Agree | Disagree |
| Rather than SSO members, SSOs should conduct searches to identify potential SEPs during the standardisation process | Agree | Disagree |
| SSOs have sufficient sources (e.g. human, technical means) to conduct a search to identify potential SEPs during the standardisation process | Agree | Disagree |
| Comment | | |
| IV. MISCELLANEOUS QUESTIONS | | |
| 13. Do you think that certain undertakings (including SSO members) are in need of protection (provided by SSOs, Competition Authorities, courts, legislature) against patent holdup? | | |
| Yes | No | |
| Comment | | |
| 14. Is it possible to classify standards technically considering their vulnerability to patent holdup? [e.g. <i>high-risk standards</i> requiring substantial investment with the high sunk cost risk, <i>low risk standards</i> bearing no to low sunk cost risk and <i>medium risk standards</i> in between of the first two] | | |
| Yes | No | |
| Comment | | |
| 15. Would you be happy to be contacted for an interview? | | |
| Yes | No | |
| Contact information (e.g. email address): | | |
| ... | | |

INTERVIEW QUESTIONS

1. What is your current role?
2. What experience you have in relation to standardisation? (e.g. technical development of standards, providing legal assistance in terms of standard-related issues)
3. What are the main factors affecting your answer to the question of 'Who can/should solve patent holdup?'

Please note that 'solution' refers to a long-term general solution rather than 'a solution of a specific dispute'.

4. Who can/should solve patent holdup?

Multiple answer can be given.

5. This question is not provided here as it depends on the answer given to Q4 and revealing it may affect the interviewee's answer to Q4.

Express search duty is the requirement of members to search their patent portfolios diligently (e.g. by a group of people who knows the standard's features and the patent portfolio with the good understanding of what constitutes SEP) to identify any potential SEPs.

6. How much effort (i.e. time and perhaps money) should be put into searching patent portfolios to comply with the express search duty?
7. What are the factors -other than the portfolio size and complexity of the standard- that can affect the length of this kind of search?
8. Do members have the necessary resources (e.g. staff) to search their patent portfolios diligently?
9. Is it still possible not to detect a potential SEP even after a diligent portfolio search?

Express disclosure duty is a rule setting when and/or until when potential SEPs shall be disclosed (e.g. requiring SSO members to disclose their potential SEPs as soon as their representatives are informed about the relevant feature of the standard and not less than 30 days before the finalisation of the standard)

10. What are your views on the disclosure of unpublished patent applications?
11. What are your views as to compliance with the non-discrimination duty in the following situation?

A SEP owner offers different licensing terms (e.g. royalty rates) to different licensees with justifying the differences commercially.

12. Considering the abovementioned scenario, which of the following can be considered as a valid commercial justification?

You can pick more than one answer.

- having a previous or ongoing relationship
- hoping to establish a relationship
- different associated value of the technology (e.g. offering a lower royalty rate to a licensor that will use the technology in the connected kettle production than the one that will use it in the connected cars production)

+ Can you think of any other justification? _____

13. Is the requirement 'to justify a difference commercially' vague?
14. Is it worth negotiating SEP licences ex ante (before the standard is set)?
15. How does the SEP owners' right to seek injunctive relief affect licencing negotiations?
16. Is it proportionate to limit SEP owners right to seek injunctive relief? [e.g. SEP owners can only seek an injunction for their FRAND-encumbered patents to protect themselves from patent holdout or a potential licensee refuses to get a licence on the FRAND terms that determined by an independent authority (e.g. court, arbitrator)]
17. Depending on the answer to the previous question:
 - 17.1. You **think** that patent infringement and damages actions suffice to bring the potential licensees to the negotiation table?
 - 17.2. You **do not think** that patent infringement and damages actions suffice to bring the potential licensees to the negotiation table?
18. What are the effects of stricter IPR policies on standardisation?

RULES OF PROCEDURE, 30 March 2022**ANNEX 6: ETSI Intellectual Property Right Policy¹****3. Policy Objectives**

- 3.1. It is ETSI's objective to create STANDARDS and TECHNICAL SPECIFICATIONS that are based on solutions which best meet the technical objectives of the European telecommunications sector, as defined by the General Assembly. In order to further this objective the ETSI IPR POLICY seeks to reduce the risk to ETSI, MEMBERS, and others applying ETSI STANDARDS and TECHNICAL SPECIFICATIONS, that investment in the preparation, adoption and application of STANDARDS could be wasted as a result of an ESSENTIAL IPR for a STANDARD or TECHNICAL SPECIFICATION being unavailable. In achieving this objective, the ETSI IPR POLICY seeks a balance between the needs of standardization for public use in the field of telecommunications and the rights of the owners of IPRs.
- 3.2. IPR holders whether members of ETSI and their AFFILIATES or third parties, should be adequately and fairly rewarded for the use of their IPRs in the implementation of STANDARDS and TECHNICAL SPECIFICATIONS.

4. Disclosure of IPRs

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

6. Availability of Licences

- 6.1. When an ESSENTIAL IPR relating to a particular STANDARD or TECHNICAL SPECIFICATION is brought to the attention of ETSI, the Director-General of ETSI shall immediately request the owner to give within three months an irrevocable undertaking in writing that it is prepared to grant irrevocable licences on fair, reasonable and non-discriminatory ("FRAND") terms and conditions under such IPR ...

¹ <<https://www.etsi.org/images/files/IPR/etsi-ipr-policy.pdf>> accessed 21 August 2022.

- 6.3. As long as the requested undertaking of the IPR owner is not granted, the COMMITTEE Chairs should, if appropriate, in consultation with the ETSI Secretariat use their judgment as to whether or not the COMMITTEE should suspend work on the relevant parts of the STANDARD or TECHNICAL SPECIFICATION until the matter has been resolved and/or submit for approval any relevant STANDARD or TECHNICAL SPECIFICATION.

8. Non-availability of Licences

- 8.1. Non-availability of licences prior to the publication of a STANDARD or a TECHNICAL SPECIFICATION

- 8.1.1. Existence of a viable alternative technology

Where prior to the publication of a STANDARD or a TECHNICAL SPECIFICATION an IPR owner informs ETSI that it is not prepared to license an IPR in respect of a STANDARD or TECHNICAL SPECIFICATION in accordance with Clause 6.1 above, the General Assembly shall review the requirement for that STANDARD or TECHNICAL SPECIFICATION and satisfy itself that a viable alternative technology is available for the STANDARD or TECHNICAL SPECIFICATION which:

- is not blocked by that IPR; and
- satisfies ETSI's requirements.

- 8.1.2. Non-existence of a viable alternative technology

[W]ork on the STANDARD or TECHNICAL SPECIFICATION shall cease ...

14 Violation of Policy

Any violation of the POLICY by a MEMBER shall be deemed to be a breach, by that MEMBER, of its obligations to ETSI. ...