

STANDARD ESSENTIAL PATENTS IMPLEMENTATIONS IN THE
EUROPEAN UNION

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ABSTRACT

STANDARD ESSENTIAL PATENTS IMPLEMENTATIONS IN THE EUROPEAN UNION

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Standard essential patents (SEPs) are the patents related to patented technologies that are incorporated in standards and they ensure interoperability, compatibility and economies of scale in the market. SEPs have critical importance for the Single Market, digitalisation and technological advancement in the European Union (EU). This thesis explores the SEP related policies of the EU through investigating SEP related legal instruments, European Commission's actions, European Commission's SEP related investigations and the Court of Justice of the EU rulings. The study shows that SEP related disputes and problems have been increasing in the EU significantly and this increase has adverse effects on the market dynamics and technological developments where current EU policies remain inadequate in finding solutions. There is a need of a comprehensive SEP policy development and legal certainty in the SEP area in the EU. In this study, the SEP related policies and implementations in Türkiye are also examined. SEP is a newly explored area by the industry and the government

institutions in Türkiye; intense focus, awareness increase and collaboration among entities are required to be more effective in the SEP environment.

Keywords: Standard essential patents, Competition, Innovation, Intellectual property, European Union



ÖZ

AVRUPA BİRLİĞİ'NDE STANDARD ESAS PATENT UYGULAMALARI

DEMİRKAN DELİCE, Şenay

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Standardda esas patentler (SEP'ler) standartlara dahil edilen patentli teknolojilerdir ve pazarda uyumluluk ve ölçek ekonomisi sağlarlar. SEP'ler, Avrupa Birliği (AB)'nde, Tek Pazar, dijitalleşme ve teknolojik ilerleme yönünden büyük öneme sahiptirler. Bu tez çalışmasında, AB'nin SEP'lerle ilgili politikaları irdelenmiştir; bunun için AB'nin SEP'lerle ilgili yasal düzenlemeleri, Avrupa Komisyonu'nun faaliyetleri ve SEP'lerle ilgili Avrupa Komisyonu soruşturmaları ile Avrupa Birliği Adalet Divanı kararları incelenmiştir. Çalışma sonunda, AB'de SEP kaynaklı anlaşmazlıkların ve problemlerin önemli derecede artışta olduğu; bu artışın, pazar dinamikleri ile teknolojik ilerlemeler konularında olumsuz etkileri olduğu ve mevcut AB politikalarının bu konulara çözüm bulmakta yetersiz kaldığı tespit edilmiştir. Bu doğrultuda, AB'de, SEP alanında daha kapsamlı politikalara ve yasal düzenlemelere ihtiyaç olduğu sonucuna ulaşılmıştır. Bu çalışmada ayrıca, Türkiye'deki SEP'lerle ilgili politikalar ve uygulamalar incelenmiştir. SEP'ler Türkiye'de, endüstri ve devlet kurumları tarafından son zamanlarda üzerinde durulmaya başlanan bir alan olarak ortaya çıkmıştır ve SEP alanında daha etkili olunabilmesi için farkındalığın artırılması,

bu alandaki alıřmaların yoęunlařtırılması ve paydařlar arası iřbirlięi gerektięi sonucu ortaya ıkmıřtır.

Anahtar Kelimeler: Standarda esas patentler, Rekabet, İnovasyon, Fikri mlkiyet, Avrupa Birlięi





To my family...

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TABLE OF CONTENTS

ABSTRACT	iv
DEDICATION.....	viii
ACKNOWLEDGMENTS	ix
TABLE OF CONTENTS.....	x
LIST OF FIGURES	xiii
LIST OF ABBREVIATIONS.....	xiv
INTRODUCTION.....	1
STANDARD ESSENTIAL PATENTS DEFINITION, FUNCTIONS, PRINCIPLES.....	10
2.1 Standard Developing Organisations in the European Union.....	16
2.2 Fair, Reasonable and Non-Discriminatory (FRAND).....	21
2.3 Patent Hold up / Reverse Hold up (Patent Hold out)	28
2.4 Standard Essential Patents and Competition Law	29
2.5 Standard Essential Patents Licensing Strategies	36
2.6 Case Examples Regarding Standard Essential Patents.....	41
2.6.1 Anti-suit Injunctions Related to Standard Essential Patents in the European Union.....	45
STANDARD ESSENTIAL PATENTS IN EUROPEAN UNION LAW	50
3.1 Standard Essential Patents and European Integration	51
3.2 Standard Essential Patents and Digital Single Market Strategy	60
3.3 Standard Essential Patents in European Union Primary Law.....	61
3.3.1. EU Competition Law	61

3.3.2.	Research and Technology	62
3.3.3.	Trans-European Networks	63
3.3.4.	Innovation	63
3.3.5.	Patent Protection	63
3.4	Standard Essential Patents in European Union Secondary Law	66
3.5	European Commission Actions on Standard Essential Patents.....	72
3.6	Effects of Brexit on Standard Essential Patents	81
ENFORCEMENT AND CASE LAW REGARDING STANDARD ESSENTIAL PATENTS IN THE EUROPEAN UNION		83
4.1	The European Commission Cases of Standard Essential Patents	85
4.1.1	Digital Versatile Disc Standard Patent Licensing Group.....	86
4.1.2	3G Patent Platform +18.....	87
4.1.3	IPCom	88
4.1.4	Qualcomm Inc.....	88
4.1.5	Rambus Inc.	89
4.1.6	Samsung –Enforcement of UMTS Standard Essential Patents.....	90
4.1.7	Motorola –Enforcement of GPRS Standard Essential Patents.....	92
4.1.8	Motorola – Enforcement of ITU/ISO/IEC and IEEE Standard Essential Patents.....	94
4.1.9	Google/Motorola Mobility Merger	95
4.2	Decisions of the European Court of Justice on Standard Essential Patents	97
4.2.1	Huawei v ZTE	98
4.2.2	Nokia v Daimler	101
STANDARD ESSENTIAL PATENTS IN TÜRKİYE		104
5.1	Role of Institutions in Standard Essential Patents in Türkiye	104

5.2	Standard Essential Patents from Türkiye and the European Union Harmonisation Point of View.....	109
5.3	Turkish Competition Authority’s Guidelines on Horizontal Cooperation Agreements.....	112
5.4	Vestel v Koninklijke Philips N.V.	113
5.5	Vestel v Access Advance	120
5.6	Turkish Industry and Business Association (TÜSİAD) Task Force on “Technology Standards and Standard Essential Patents”.....	121
CONCLUSION.....		123
REFERENCES.....		134
TURKISH SUMMARY / TÜRKÇE ÖZET.....		158
THESIS PERMISSION FORM / TEZ İZİN FORMU		171

LIST OF FIGURES

Figure 1: Some of the connectivity standards implemented in a car (Pohlmann, 2021)	6
Figure 2: Number of standard documents in the EPO data bases by years (in millions) (European Patent Office, 2021)	14
Figure 3: Standard setting and licensing processes.....	20
Figure 4: The types of disputes over SEPs in litigations (Frey, 2014)	41
Figure 5: Number of granted patents by Turkish Patent and Trademark Office (https://www.turkpatent.gov.tr/patent-istatistik).....	106

LIST OF ABBREVIATIONS

3G3P	3G Patent Platform Partnership
3GPP	3rd Generation Partnership Project
ADR	Alternative Dispute Resolution
AI	Artificial Intelligence
ARIB	Association of Radio Industries and Business
ASI	Anti-suit Injunctions
BTK	Turkish Competition Authority and Turkish Information and Communication Technologies Authority
CDR	Recordable Compact Disc
CDRW	Rewritable Compact Disc
CEN	The European Committee for Standardization
CENELEC	European Committee for Electrotechnical Standardization
CJEU	Court of Justice of the European Union
DGComp	Directorate-General for Competition
DRAM	Dynamic Random Access Memory
DSM	Digital Single Market
DVB	Digital Video Broadcasting Project

DVD	Digital Versatile Disc
ECSC	European Coal and Steel Community
EEA	European Economic Area
EEC	European Economic Community
EPC	European Patent Convention
EPO	European Patent Office
ETSI	European Telecommunications Standards Institute
EU	European Union
FRAND	Fair, Reasonable and Non-discriminatory
GPRS	General Packet Radio Service
GSM	Global System for Mobile Communication
HEVC	High Efficiency Video Coding
ICT	Information and Communications Technology
IEC	International Electrotechnical Commission
IEEE-SA	Institute of Electrical and Electronics Engineers Standards Association
IETF	Internet Engineering Task Force
IoT	Internet of Things
IP	Intellectual Property
IPA	Instrument for Pre-accession Assistance
IPR	Intellectual Property Right

ISO	International Organization for Standardization
ITU	International Telecommunication Union
LTE	Long Term Evolution
MTC	Mirror Technical Committees
NGO	Non-governmental Organisations
OECD	Organisation for Economic Co-operation and Development
OEM	Original Equipment Manufacturer
OMA	Open Mobile Alliance
PAE	Patent Assertion Entities
PCT	Patent Cooperation Treaty
R&D	Research and Development
SEA	Single European Act
SEP	Standard Essential Patent
SDO	Standard Developing Organisations
SME	Small and Medium Enterprises
TCA	Competition Authority of Türkiye
TCU	Telematic Control Unit
TEEC	Treaty Establishing the European Economic Community
TEU	Treaty on European Union
TFEU	Treaty on the Functioning of the European Union

TRIPS	Trade Related Aspects of Intellectual Property Rights
TSE	Turkish Standards Institution
Turkpatent	Turkish Patent and Trademark Office
UK	United Kingdom
UMTS	Universal Mobile Telecommunication Service
UPC	Unified Patent Court
UPCA	Unified Patent Court Agreement
US	United States
W3C	World Wide Web Consortium
WIPO	World Intellectual Property Organization
WTO	World Trade Organization

CHAPTER 1

INTRODUCTION

In today's knowledge economy, intangibles play increasingly important social and economic roles, which results in more reliance on intellectual property rights (IPRs) to regulate competition and balance diverse social and economic interests. Nations and organisations make policies in order to encourage inventions and innovations to foster their economic strength and also to enhance technological and industrial development, while protecting the IPRs.

Patent protection system as an IPR, provides legal protection for inventions by granting the inventors the monopoly right to make, use, sell or license their patented technique for a limited amount of time, on condition that they disclose their innovative idea to the public to be accessible by other people, so that the related information can be used for new innovations. In this respect, the patent system enables rewarding of human creativity in economic terms, while encouraging others to innovate not only by offering legal protection but also by disseminating the knowledge produced as a result of intellectual creation (Yeşiltaş, 2005, p. 1). Patents provide disclosing scientific and technical information, allowing others to avoid duplicating existing discoveries and making it easier to develop further innovations that build on the known state of the arts (Langinier & Moschini, 2002). Granting legally protected special rights to the creators of inventions is an effective way to sustain the technological developments. In order to obtain the IPR legal protection, patents are need to be registered (Şehirali Çelik, 2018).

The efforts of creating a unified European Community patent started at the end of the 1950s, just after the establishment of the European Economic Community (EEC), but could not reach to a conclusion until 2012 where enhanced cooperation was achieved

for unitary patent protection¹ and the Unified Patent Court Agreement was signed in 2013². Unitary patent and Unified Patent Court is going to enter into force in June 2023. European integration in terms of the patent system occurred in a way of graduating the intensity of integration. First European Patent Convention, which has an intergovernmental structure, was established and then unitary patent system was created based on enhanced cooperation. It is obvious that a well functioning patent system throughout the EU is necessary for the Single Market. It can be said that successful integration of the Single Market lead to spillover effects to patent policy area in the EU (Leuffen, Rittberger, & Schimmelfennig, 2022). The transformation of the patent system in the EU can be explained through European integration theories of neofunctionalism/supranationalism and (liberal) intergovernmentalism perspectives as elaborated in Section 3.1.

As the importance of technology to the communities' well-beings grows, patents play more significant role in the economy. In today's technology-oriented world, companies, universities and public institutions ascribe greater value to obtaining, exercising and defending patents (Merrill, Levin, & Myers, 2004, p. 1). In search of a stimulator for an economic growth, policymakers heavily rely on strong patent systems for long-term innovation activities in recent years (Wurster, 2021). Today's patent system is an intertwined world comprising of innovators, implementers, patent offices, attorneys, courts and many other stakeholders.

On the other hand, patent system has been criticised by some commentators arguing that the system creates a monopoly power for the patent holder (Langinier & Moschini, 2002), thus suppressing the innovation by preventing people's free use of new ideas (Boldrin & Levine, 2013). Also, it is argued that the monopoly right granted by the patent certification aggravates inequality (Yeşiltaş, 2005, p. 18) between the big

¹ 1257/2012: Implementing enhanced cooperation in the area of the creation of unitary patent protection
² 1260/2012: Implementing enhanced cooperation in the area of the creation of unitary patent protection with regard to the applicable translation arrangements

² 2013/C 175/01: Agreement on a Unified Patent Court

players in the market and the Small and Medium Enterprises (SMEs) or the entrepreneurs (Moser, 2013).

Not only its increasing significance in a digitalised world from a general perspective, but also its impact particularly in the European Union (EU), standardisation is a voluntary cooperation among industry, consumers, public authorities and other interested parties for the development of technical specifications based on consensus. Standardisation complements market-based competition, typically in order to achieve objectives such as the interoperability of complementary products/services, and to agree on test methods and on requirements for safety, health, organisational and environmental performance (COM(2008) 133 final, 2008, p. 2).

Standardisation has particular importance for the EU since it is an essential element of the Single Market. A recent example of standardisation in the EU is the decision of the European Parliament that USB Type-C port will be the only common standard for chargers of all mobile phones and tablets throughout the EU, by 2024 (European Parliament - News, 2022).

Standardisation, usually brings predictability and a level playing field; therefore it may be intuitively perceived as a conflicting concept with “innovation” which strives for change and exclusivity. However, as confirmed by the stakeholder consultation of the EU, dynamic standardisation is an important enabler of innovation (COM(2008) 133 final, 2008). The benefits of standardisation can be listed as (2011/C 11/01, 2011, p. 56):

- Adoption of a technology
- Economies of scale in production
- Increasing competition and lowering output and sales costs
- Enhancing quality
- Ensuring interoperability and compatibility
- Motivation of investment for research and development for the companies
- Enabling variety in consumers' choices by providing complementary or integrated products
- Decreasing of prices by increasing consumers' choices

On the other hand, standard setting may have adverse effects in terms of competition such as (2011/C 11/01, 2011, p. 57):

- Excluding other parties from the market
- Restricting price competition
- Limiting or controlling the production
- Unfair licensing fees
- Generating monopolies
- Patent ambush

Standards provide the systems to work in coherence. European Commission emphasizes that the ability of connected devices and systems to work together is crucial for maximizing the economic potential. Without interoperability, enabled by standards, 40% of the potential benefits of systems would not be reaped (COM(2017) 712 final, 2017).

Standards may also be developed in a way to diminish the detrimental effects of 'planned obsolescence'. Technological developments may lead to regularly placing new products and thereby making the previous models less attractive, such as technological updates may cause older models not to be functioning properly (Şit İmamoğlu, 2020, p. 32) or may cause incompatibilities of by-products with the new products (Maitre-Ekern & Dalhammar, 2016). So, even there are no failures about the products, emergent technologies might entail discarding of the still-functioning products resulting in planned obsolescence; or the lifetime of products may intentionally be reduced to keep the demand alive. 'Planned obsolescence' is a strategical business or production strategy that limits and manipulates the operational lifetime of a product intentionally (Şit İmamoğlu, 2020, pp. 5, 10). It has many adverse effects in terms of social, economical, health and environmental (Şit İmamoğlu, 2020, pp. 60-65). Standards might be developed in a way to ensure compatibilities of operations between new technologies and old technologies, so that older technologies do not become obsolete. Furthermore, standards might be defined for the manufacturers to produce repairable products. Additionally, standardisation might promote circular economy by adopting standards for using recycled/refurbished

materials in new technologies. There might be standards about the operational lifetime of products. Above mentioned, standardised USB Type-C charger throughout the EU is an example of preventing planned obsolescence type of actions. This type of ameliorating actions for planned obsolescence facilitates to European Green Deal and protects the consumers. France has been adopting several measures to combat intentional planned obsolescence (Maitre-Ekern & Dalhammar, 2016, s. 379) (Şit İmamoğlu, 2020, p. 11); so, in the future, the actions of France may have spill-over effects to other Member States and eventually all over the EU to develop regulations for planned obsolescence.

Standard essential patents (SEPs) bring two seemingly contrasting concepts of standards and patents together. SEPs are patents related to technologies that are incorporated in standards, and these standards facilitate interoperability between devices and systems. It is a fact that the effects of SEPs to technology developments and their market values are considerably higher than the non-SEPs.

The licensing of SEPs is often a cumbersome and costly exercise for both patent holders and technology enforcers. While patents protect the IPRs of the holder due to the presented technological innovation, standards require the mutual usage of the innovation. These inherent differences cause the main grounds for conflicts between holders and relevant enforcers for the standards which comprise of patented technologies.

SEPs and developing policies related to its usage have been a subject undergoing intense focus in the last few years in the EU.

The European Commission (the Commission) devoted a large place for the SEPs in its 2020 Intellectual property action plan (COM(2020) 760 final, 2020). In this plan it is emphasized that SEPs are becoming increasingly widespread. The Commission also noted the importance of SEPs in the development of 5G and the Internet of Things (IoT), and the role of standards in enabling digital integration of objects, devices, sensors, and everyday items, with applications ranging from connected cars, health, energy to smart cities. Figure 1 shows some of the standards implemented in a car for connectivity.

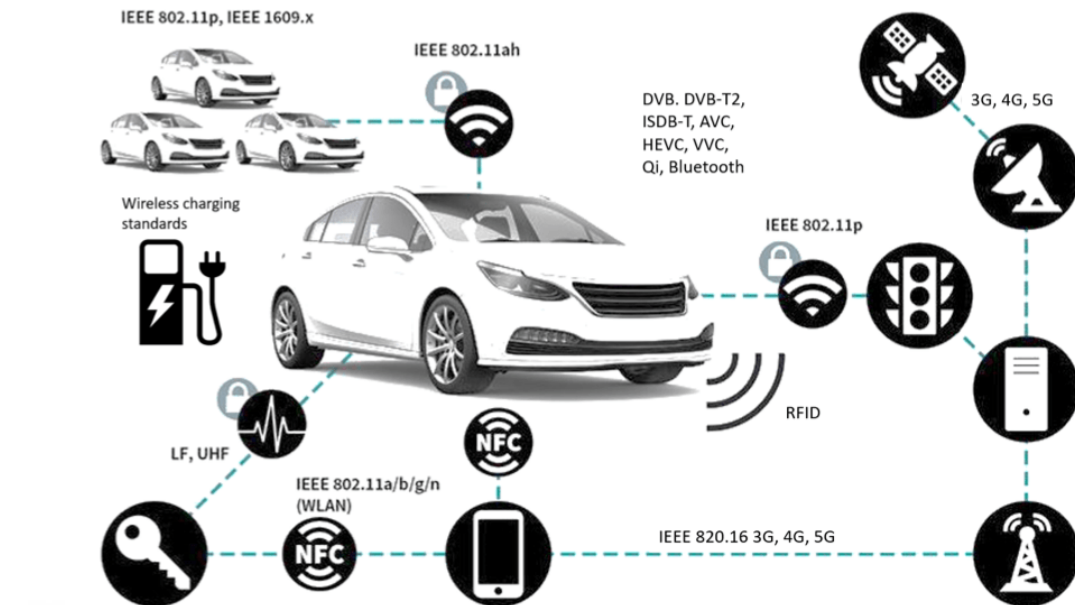


Figure 1: Some of the connectivity standards implemented in a car (Pohlmann, 2021)

The Commission identified a need for an action on SEPs in its 2017 Communication (COM(2017) 712 final, 2017), since then it has been working on a new framework for SEPs which is planned to be providing fair and balanced general conditions for licensing, by combining legislative measures and non-legislative measures (European Commission, 2022).

In the In-Depth Analysis for the JURI committee (McDonagh & Bonadio, 2019), European Parliament's Policy Department for Citizen's Rights and Constitutional Affairs, assesses the Commission's Communication of 2017 which sets out the EU approach to SEPs, and focuses on the following subjects:

- (i) increasing transparency on SEPs,
- (ii) determining valuation of SEPs and FRAND terms,
- (iii) enforcement.

The Council of the EU recognised the need for a balanced approach of SEPs, ensuring a fair return on investment for SEP holders as well as a fair access to SEPs for all players and especially SMEs, in Draft Council conclusions on the "Digital Single Market Technologies and Public Services Modernisation" package, on 17 May 2016 ("A" Item Note 8735/16, 2016).

In its April 2016 Communication on Information and Communications Technology (ICT) Standardisation Priorities for the Digital Single Market, the Commission sets out strategic and political approach to standardisation for ICT technologies that are critical to the completion of the Digital Single Market (DSM) (COM(2016) 176 final, 2016).

In recent years there has been a significant increase in SEP related conflicts between undertakings and this causes economical and financial problems for both SEP holders and implementers. The ascending trend of SEP related conflicts, has made it essential for the related parties and the EU authorities to interrogate the effectiveness of the SEP system and determine the SEP related policy gaps. The technologies in the future (such as IoT, 5G) will require more “collaborative work between technologies” and therefore technology standards and SEP related policies will gain even more importance for companies and governments. In the SEP related In-depth analysis of the European Parliament, standardisation was defined as being crucial for the ICT and the IoT as well as for the development of smart cities, traffic regulation, resource management and public health (Mcdonagh & Bonadio, 2019, s. 5).

Many new players who are not familiar with SEP management have been entering to the SEP landscape, such as SMEs and start-ups and SEP licensing arrangements become a more complex environment with longer negotiation periods, increased number of conflicts and litigations, which affects EU businesses at all levels.

SEPs have critical significance for companies in order to control their production costs, making their products competitive in global market and for being effective in technology creation (Söylemez, 2022, p. 11). Once a standard is adopted, the producers in the sector need to comply with that standard and consequently, they need to invest resources to ensure that their products follow the related standard. It is foreseeable that, most of the time switching to an alternative technology would be a huge burden for the implementer and would make it non-compliant with the standard in the market, which might be blocking inter-operability with the other products in the market. This type of situations put the SEP holders in an unfairly advantageous position in terms of identifying the licensing conditions and the holder may demand excessive royalties,

merely because of the implementer's inevitableness (Bekkers R. , 2015, s. 4). A SEP holder may exploit its position by rejecting licensing, applying unfair licensing conditions and injunctive relief.

The monopoly authority of the SEP holder is limited by Fair, Reasonable and Non-discriminatory (FRAND) terms which are envisaged as a resolution mechanism to balance the conflicting interests of the SEP holder and the implementer during the licensing negotiations. However, it should also be noted that the licensing negotiations between holders and implementers are conducted in a private sphere and their compliance with the FRAND terms are not audited by a third party.

SEPs are obviously an issue under IPRs regulated by the national legal systems as well as under EU Law, nevertheless the topic, due to its monopolistic nature also relates to EU competition rules since owning a SEP provides the holder a very advantageous position in the related market and SEP holders generally hold a monopolistic power as all the standard implementers have to utilize their SEPs. However, there are no definite rules to determine whether or not this constitutes an abuse of dominant position of the SEP holder, as case by case approach of the EU competition law also applies in SEP related cases. In most of the SEP related disputes, the claims are based on the abuse of a dominant position by the SEP holders. In addition to the competition cases, other reasons for conflicts comprise a disagreement on the FRAND terms and patent infringement of the technology implementers.

In addition to EU Law related issues, SEP related issues have recently caused a conflict from an international point of view, between the EU and China due to anti-suit injunction (ASI) grants. The Chinese courts frequently grant ASIs for the litigation cases of which defendants are Chinese companies, so that they restrict the enforcement of injunctive relief decisions of the EU Member States' courts. Accordingly, the Commission has launched a case against China at the World Trade Organization (WTO) for breaching the WTO Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) (Garcia Ferrer & Lerebours, 2022).

The main objective of this study is to identify the approach of the SEP related policies of the EU and to evaluate the effects of SEP implementations. In the light of such

purposes, the evaluation will be made through the analysis of the relevant EU law, such as the relevant regulations, the Commission actions and decisions on SEPs, Court of Justice of the EU (CJEU) rulings on SEPs and the decisions of the Member States' courts on SEPs. Additionally, SEP related policies in Türkiye, as an EU candidate country, will also be explored comparatively, to reach the overall objective of the study which is to evaluate the effectiveness of SEP related EU and Turkish policies, identify the legal and practical vacuums and to the extent possible make suggestions to alleviate the problems in the area, and thus try to contribute to future policy-making activities.

In Chapter 2, a general overview of SEPs, their main components, functions and the reasons of conflicts born out of SEPs are introduced. Subsequently, EU policies and actions on SEPs are analysed in the Chapter 3. The Commission investigations and the CJEU rulings on SEPs are examined in Chapter 4. Finally, in Chapter 5, the situation of SEPs in Türkiye and related cases are explained.

CHAPTER 2

STANDARD ESSENTIAL PATENTS DEFINITION, FUNCTIONS, PRINCIPLES

Standards allow complementary or component products from different manufacturers to be combined or used together, so that there would be alternatives for consumer choice and convenience and also it helps to reduce the prices, encouraging competition and technology advancement (Geradin, 2013) (2011/C 11/01, 2011, p. C11/64). Numerous innovations build upon standardised technologies (Pohlman, Neuhausler, & Blind, 2016). For instance, technical interoperability standards, such as Wi-Fi, 5G, Bluetooth, are sets of protocols and design parameters that enable a wide range products manufactured by different producers to communicate and interoperate with one another and with minimal user intervention (Yu, Contreras, & Yu, 2022, p. 1559). These standards are embodied in nearly every electronic and technological device today (Contreras, 2016, p. 856). Standard setting takes place through formal standard setting processes established by various standard bodies such as standard developing organisations (SDOs) and government agencies (Shapiro & Varian, 1998, p. 237).

In order to promote scientific and technical progress, an exclusive right is secured to the inventors for their discoveries, which is called “*patent protection*” (Shapiro & Varian, Information Rules, 1998, p. 4). Patent is a form of governmental grant that gives the owner the exclusive right to practice (i.e. make, use and sell) a claimed invention in a defined territory (e.g. a country or group of countries) for a period of time (generally twenty years from the patent application date) (Contreras, 2016, p. 859). In patent grants there is a short term trade-off between exclusive (monopoly) rights to the use of an invention and two things, one is an incentive to create an invention and the other is the publication of the invention rather than protecting it

through secrecy (Hall & Harhoff, 2012, p. 3). In today's world, patent protection systems have become almost universal and the signing of the TRIPS agreement has ensured that all WTO member countries have at least a minimal level of patent protection.

If the standard is a technology that is protected by a patent, this is called SEP. Although the term "standard essential patent" was not used in the way of today's literature, the studies on the SEP concept can be traced back to 1980s (Farrell & Saloner, 1985) (Katz & Shapiro, 1985). Farrell and Saloner (1985, s. 70), mentioned about the "compatibility" or "standardisation" of goods in the sense that different manufacturers provide interchangeability with the examples of different telephone service subscribers could talk to each other, different brand televisions could be received on the same set, computer code written for one computer could be run on another. In Katz and Shapiro (1985), interoperability was defined as the increased utility that a user derived from consumption of the goods with the other number of agents consuming the good such as a telephone network. In the same study, it is mentioned a network of products of a coalition of firms where some groups of manufacturers adopt common operating systems, as in the case of computers. The intensity of studies on SEPs has escalated starting from mid 2000s, in parallel to the increase in the disputes related to SEPs and the huge monetary amounts at stake in these disputes.

Owning a SEP helps to achieve and maintain significant market shares (Pohlman, Neuhausler, & Blind, 2016); successful standards play a central role in large (i.e. multi-billion) markets (Blind, et al., 2011). Complex technological products may implement hundreds of standards (e.g. a study identified 251 technical interoperability standards implemented in a laptop computer (Biddle, White, & Woods, 2010), each of which may be covered by thousands of SEPs; therefore there is a very large number of patents at stake covering different aspects of standards (Contreras, 2016, p. 860). Disputes about patents in standards were not widely encountered in the past, but they have been increasing and can be expected to create a systematic problem in the near future due to more players, transfers of IPRs, heterogeneous IPR regimes and wide range of usage (Blind, et al., 2011).

The utility that a user derives from consumption of the good increases with the number of other agents consuming the good (Katz & Shapiro, 1985), this is called “network externalities”. In accordance with that definition, the value of a SEP increases if it is related to a widely adopted standard and used by large number of implementers, as a result of network externalities; on the other hand strong network externalities prevent implementers from proposing alternatives (Lerner & Tirole , 2013). Generally, SEP holders try to sponsor the adoption of the standard and strive to protect it from becoming obsolete and being replaced with rival technologies by promoting coordinated technological change (Baron, Blind, & Pohlmann, 2011, p. 3); so that they obtain benefit from network externalities. Consequently, the actions of SEP holders should be scrutinised from the perspective of competition rules as the SEP has critical importance for the standard implementers and users (Yenişen, 2003, p. 53).

Standards are required for the wide adoption and interoperability of new technologies in the marketplace; otherwise there would be compatibility problems among devices, systems and services. For instance, one brand mobile phone would not be able to communicate with other brand phones; or the mouse of a brand would not be operable with other brand computers.

One of the earliest incidents that show the importance of standards is the Great Baltimore fire in 1904. Firefighters with their equipments arrived to the fire place from the neighbourhood cities (i.e. Washington D.C., Philadelphia and New York); unfortunately, the equipments of these firefighters became useless in the area since the firehose couplings of them were incompatible with Baltimore’s fire hydrants. In those days there were roughly 600 variations in firehose coupling and fire hydrant outlets. The National Fire Protection Association and the National Board of Fire Underwriters advocated for change and in 1905 a standard was adopted by a number of major industry groups (Narin, 2020).

Standards help to obtain efficiency gains and facilitate market integration, as a result they have critical importance for the EU Single Market. EU wide standards provide market integration among Member States and allow companies to market their goods and services throughout the EU, decreasing prices and increasing consumer choice.

Compliance with quality, environmental and safety standards may facilitate consumer choice and may lead to better quality products (2011/C 11/01, 2011, p. C11/64).

The subject of SEPs has gained interest in the EU starting from 2007 after the lawsuits of Rambus Inc (Case COMP/38.636, 2009) and Qualcomm Inc (MEMO/09/516, 2009). The CJEU decision of *Huawei v ZTE* (Case C-170/13, 2015) has been an important milestone for SEPs in the EU and several authors have commented on this decision (Maume, 2016) (Picht, 2015) (Tsilikas, 2017).

If a standard requires a patented technology to be implemented, the enforcers of this standard need to use the SEP, unavoidably. For instance, a company marketing residential alarm systems connected to the internet via Wi-Fi and Long Term Evolution (LTE) would need a licence for these standardised technologies (COM(2017) 712 final, 2017).

European Patent Office (EPO) defines “standards” as a set of requirements for a specific item, material, component, system or service, or a particular method or procedure, developed to ensure compatibility and interoperability of components, products and services (European Patent Office, 2021).

In recent years, SEPs have been in focus of the intellectual property world with an increasing rate (Figure 2). The number of SEPs and SEP related transactions are expected to be higher due to new technologies such as 5G, IoT and digitalisation.

The digital strategy of the EU requires utilizing more SEPs, to reach its objectives (European Commission Digital Strategy, 2022). In the near future, the SEP issues are expected to become more complicated as standard-related technologies – ranging from wireless and wired communications to video and audio streaming; from block-chain or other security mechanisms to health-data sharing; and from artificial intelligence (AI) to robotics – are going to expand into other areas beyond the IoT. Many governments around the world have been recognising these developments and converging on approaches to SEP licences and FRAND royalties by focusing on balance, transparency and reasonableness. However, even with FRAND commitments, it does not seem easy to create equal or fair licenses. It is foreseeable

that problems might become more acute when players coming from new industrial sectors who are unfamiliar with the SEPs need access to standardised technologies.

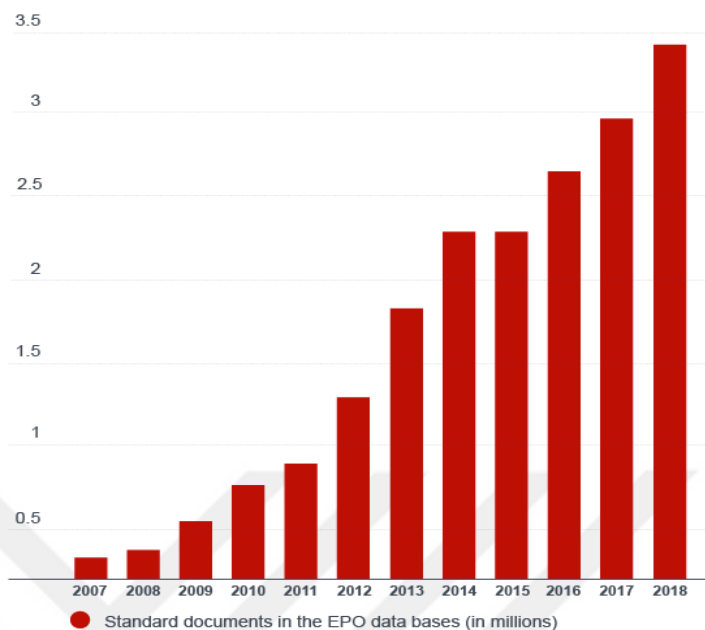


Figure 2: Number of standard documents in the EPO data bases by years (in millions) (European Patent Office, 2021)

SEP licensings have reached thousands of agreements since the 1990s and worth many billions of dollars every year (Mallinson, 2020). The value of agreements will increase dramatically as the standard needed technologies will be needed more and more due to various different IoT applications such as cars, domestic appliances, industrial robots, etc. For instance, car manufacturers have been planning to implement 5G technologies to improve positioning to enable autonomous and self-driving vehicles (Mallinson, 2020).

When mentioning about a standard, it may be comprised of thousands of SEPs; as an example, there are over 95 000 unique patents and patent applications supporting 5G (Pohlmann, Blind, & Hess, 2020, p. 58) and each SEP needs to be licensed with each separate implementer of the 5G standard. The matrix of this combination illustrates the complexity of the SEP landscape. SEP licensing becomes more difficult with the increasing number of SEPs as well as with the increasing numbers of patent holders and implementers. SEP licensing procedures can be said to be well functioning if they

are concluded with minimum of search, in a short amount of negotiation time period and minimum costs for both parties; and it should guarantee the technology contributor a fair return on his investment while enabling the implementer to use the standard at reasonable costs and on a level playing field (Bekkers, et al., 2014).

The objective of setting a standard is to establish standardised technology that can be used as widely as possible, so, patent right-holders may have a commercial interest in the adoption of their own patented technology in the framework of the standard, thus they could benefit from royalties as much as possible. However, if a patent owner blocks the implementation of the standard by refusing a licence or claiming unreasonably high royalties, this would obviously be against the objective of the technical standardisation process (WIPO website) and also may violate Article 102 of Treaty on the Functioning of the EU (TFEU) by abusing of dominant position. Opportunistic behaviours may be encountered during licensing negotiations stemming from any side of licensors or licensees.

The number of patents and patent applications that companies have is an indicator of their Research and Development (R&D) capabilities and their investment in protecting their industrial property. The number of owned patents might be a source of reputation for the corporations. If a company becomes successful in including its patents to the standards, this might add significant amount of economical and reputational value to the company. To name some of the companies that are successful in standardising their patents are: Huawei, ZTE, Intel, Qualcomm, Sharp and Panasonic (Tosun, 2019). A success story of the significant effects of being a SEP owner is the Tyco Electronics/AMP's achievement in including their technology into the standard technology. Tyco Electronics/AMP is a company in the field of electrical/electronic connectors and interconnection systems. They managed to have their SC connector accepted as European and global standard. The company had a competitive advantage in terms of knowledge, time to market and economies of scale. In the period 1995-2004, Tyco Electronics/AMP had additional profit of US\$ 50-100 million depending on standardisation of their technology (de Vries, 2006).

SEPs have huge economical values. The economical worth of SEP licensings only in smart phone industry was estimated at \$12,4 billion in 2016 (Heiden, Padilla, & Peters, 2021). The royalty income for 2G, 3G and 4G standards is approximately EUR 18 billion per year (COM(2017) 712 final, 2017).

Once a standard is started to be implemented, switching to an alternative technology may be too difficult for the implementers and the bargaining power of the SEP holders increase, accordingly (Geradin, 2013). “Patent hold up” occurs if the patent proprietor exploit this situation and asks for higher amounts of royalties or more harsh licensing terms. It is argued that the “hold up” is particularly significant when the SEP holder is able to seek a court injunction to block the sale or import of infringing products (Geradin, 2013).

SDOs, which promulgate technical standards, often require owners of SEPs, to commit to license their patents on FRAND terms in order to prevent the possible antitrust executions by the SEP holders. FRAND subject is explained in part 2.2 in further detail.

The evidence however suggests that the licensing and enforcement of SEPs is not seamless and may lead to conflicts between SEP owners and standard implementers. They have disputes in negotiating licences, seeking (or avoiding) injunctions, determining FRAND royalties, avoiding discrimination, and seeking recoveries for an SEP owner’s breach of FRAND commitments or the refusal of an implementer to accept FRAND terms. The type of disputes and cases are explained in part 2.6 below.

Since SEPs are related with highly technical and technological issues, some related concepts which are essential to understand and evaluate the issues are explained in the following sections of this Chapter.

2.1 Standard Developing Organisations in the European Union

Standards of electronic components, communications, etc. are set by certain organisations composed of the participants from a given industry. They meet to discuss, analyse, refine and ultimately adopt mutually acceptable standards, which ensure that competing and complementary products and components are compatible

and can operate with one another (Geradin, 2013). As stated above the standard-setting process is not only significant for patent protection and research and development process but also from the viewpoint of the effects it may create in the markets, it needs to be in line with European competition provisions (COM(2008) 133 final, 2008, p. 3).

For example, European Telecommunications Standards Institute (ETSI) was set up in 1988 by the European Conference of Postal and Telecommunications Administrations (CEPT) in response to proposals from the European Commission. The ETSI is a European Standard Organization, dealing with telecommunications, broadcasting and other electronic communications networks and services. ETSI is one of the European Standard Organizations under Regulation 1025/2012 that adopts Harmonised European Standards in Europe (the other two organizations are: CEN and CENELEC) (CEN CENELEC website). ETSI has more than 900 member organizations worldwide from over 60 countries. There is a diversified pool of members: Large and small private companies, research entities, academia, government and public organizations. Aselsan, ICTA, P.I.Works, Tübitak Uekae, Türk Telekom, Turkcell and Vodafone are the members of ETSI from Türkiye (ETSI Members around the world).

ETSI produces standards to support EU regulation and legislation and these standards are defined in various EU Regulations, Directives and Decisions. Harmonised European Standards (which are European Standards with a special status) provide “presumption of conformity” with the essential requirements of a directive for the manufacturers and service providers eliminating separate approval processes in different Member States; thus ensuring the free movement of goods within the Single Market (ETSI in Europe). One of the focused area of the ETSI is the digital standard setting and as part of the studies in this area, the ETSI frequently emphasizes the importance that the EU lawmakers put standardisation at the centre of EU digital and industrial strategy (KREAB, 2019).

The European Committee for Standardization (CEN) was officially created in 1975 and it provides a platform for the development of European Standards and other technical specifications (European Commission joinup, 2018). It is the only recognised

European organisation for the EU, according to Directive 98/34/EC, for the planning, drafting and adoption of European Standards in all areas of economic activity with the exception of electrotechnology and telecommunications (Directive 98/34/EC of the European Parliament and of the Council, 1998).

CENELEC is the European Committee for electrotechnical standardization composed of national electrotechnical committees of 34 countries³ (CENELEC members).

According to Regulation (EU) No 1025/2012, European standardisation is organised by CEN, CENELEC and direct participation of ETSI and it is founded on the principles of coherence, transparency, openness, consensus, voluntary application, independence from special interests and efficiency recognised by the WTO in the fields of standardisation. The involvement of all relevant interested parties, such as public authorities, SMEs, in the national and European standardisation process is necessary.

All three European SDOs (ETSI, CEN, CENELEC) support the development of a Single European Market. The Commission has direct relationship with these three European standards bodies by having a special membership status, such as the Counsellor status in the ETSI. In addition to other direct and indirect effects, this Counsellor status of the Commission may have effects on the decisions of the SDOs (Bekkers, et al., 2014, p. 36).

International Standard Setting Organisations: There are also international SDOs such as ISO, IEC, ITU and IEEE. ITU has members from Türkiye, which are Ministry of Transport and Infrastructure, Information and Communication Technologies Authority, Kadir Has University, Plan S Uydu ve Uzay Teknolojileri A.Ş., Sigma Telecom, TT Mobil İletişim Hizmetleri A.Ş., Türksat Uydu Haberleşme Kablo TV ve İşletme A.Ş., Turkcell, Türk Telekom. The European standardisation system works in collaboration with the international standardisation bodies in order to reinforce the

³ 27 EU Member Countries and United Kingdom, the Republic of North Macedonia, Serbia, Türkiye (Turkish Standards Institute), Iceland, Norway and Switzerland

global competitiveness of the European industry (Regulation (EU) No 1025/2012, p. L 316/12).

In order to minimise the risk of conflicts and to assure a smooth and wide dissemination of the standardised technology, most SDOs have established their own patent policy. For example, many SDOs require the parties involved in the standard-setting process to disclose information regarding relevant patents (and patent applications), in order to include the relevant information into the standard-setting process. If any relevant patent (or patent application) exists, many SDOs require the patentee to agree on specific licensing conditions, such that the licence must be granted under FRAND terms or that the license must be royalty free (WIPO website). For instance, World Wide Web Consortium (W3C), which is an international consortium developing web standards, require the patent owners to agree to license the technology on a royalty free basis, if implemented in the standard and it is emphasized that the licence must be available to all implementers and should not impose any other requirements such as using other technologies (Overview and Summary of W3C Patent Policy, 2005). However, royalty-free licensing requirement is a strict one that technology developers and patent owners would not prefer to accept.

Some other SDOs require the patent holders to disclose their licensing conditions *ex-ante* the settlement of the standard if their patents seem to be related to the standard. However, many patent holders would not like to accept this disclosure, claiming that this would create an anti-competitive position for the patent owners if their patents are subjects of licensing agreements or litigations.

A schematic representation of standard setting and licensing procedures for a technology standard is given in Figure 3.

In general, the SDOs are not involved in arrangements related to patents (such as licence agreements, defining FRAND rates) or in settling disputes in respect of the validity and scope of the relevant patents.

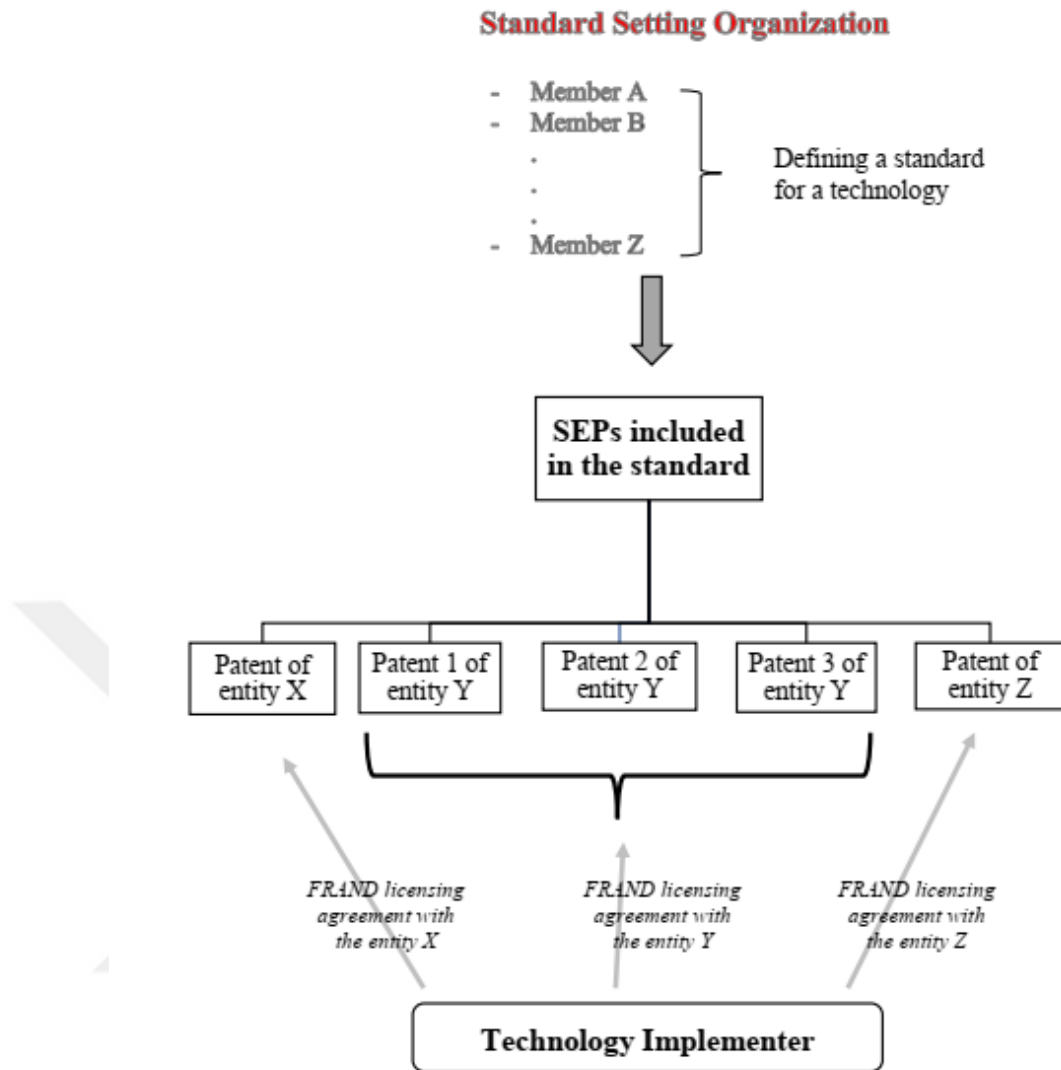


Figure 3: Standard setting and licensing processes

European Patent Office works in collaboration with SDOs. The collaborated SDOs include: ETSI, 3rd Generation Partnership Project (3GPP), Internet Engineering Task Force (IETF), ITU, Institute of Electrical and Electronics Engineers Standards Association (IEEE-SA), Digital Video Broadcasting Project (DVB), Open Mobile Alliance (OMA), oneM2M - Standards for M2M and the Internet of Things, International Electrotechnical Commission (IEC) and Association of Radio Industries and Business (ARIB) (European Patent Office, 2021). As a result of these cooperation, EPO has access to documentation from these SDOs, allowing the EPO to use standard related documents for prior art. On the other side, due to this collaboration, the SDOs might improve the quality of their databases by linking patent

disclosures to the patent databases; thus, data quality and the transparency could be enhanced, accordingly (Bekkers, et al., 2014, p. 166).

2.2 Fair, Reasonable and Non-Discriminatory (FRAND)

A patent holder that joins standard setting activities generally agrees to license its patents on fair, reasonable and non-discriminatory terms to future implementers of the standard if its patent becomes essential for a standard. The primary purpose of the FRAND commitment is limiting the monopoly power of SEP holders and ensuring all implementers' access to the patented standard-essential technology (Sidak J. , 2015, p. 209). FRAND commitments prevent the SEP holder from refusing to license (therefore denying certain manufacturers accessing to the standard) or asking for unfair licensing terms. Consequently, FRAND contribute to level playing field in the market from the competition point of view.

While at first instance, it seems that IP laws and competition laws contradict with each other, they both share the same objectives of promoting innovation and enhancing consumer welfare. IPRs promote dynamic competition by encouraging undertakings to invest in developing new or improved products and processes; therefore it would be admitted that IPRs are procompetitive.

By virtue of IPRs, an entity holding an IPR (generally patent) which is essential for implementing a standard, also acquires the control over the use of that standard. Accordingly, the company could thereby control the product or service market to which the standard relates. The situation may sometimes lead to restrictions on competition, such as “holding-up” users by way of refusing to license the SEPs or asking for excessive royalty fees thereby preventing effective access to the standard. (2011/C 11/01, 2011, p. C11/60)

The Guidelines on the applicability of Article 101 of the TFEU to horizontal co-operation agreements aims to provide an analytical framework for the most common types of horizontal co-operation agreements including standardisation agreements and standard contracts (2011/C 11/01, 2011, p. C11/4). Before the Guidelines were adopted in 2001 (the previous version of the Guidelines (2001/C 3/02, 2001) was

published in 2001), two Commission notices and two block exemption regulations provided guidance for the assessment of horizontal cooperation under Article 81 of the EC Treaty. However these regulations and notices became inadequate in addressing the needs of the EU market as its variety increased and various different use of horizontal cooperation emerged (2001/C 3/02, 2001, p. C3/2). The Guideline in 2001 was developed with the view of providing a more complete and updated guidance to improve clarity and transparency regarding the applicability of Article 81 of the EC Treaty (now Article 101 of the TFEU) in horizontal co-operation area (2001/C 3/02, 2001, p. C3/2). The Guidelines were revised in 2011 as a result of the developments in the area, providing more economics based and realistic legal standards (Andreangeli, 2010).

The Guidelines state that the evaluation of whether licensing fees of the IPR in the standard-setting context are fair or not should be based on the relationship between the fees and the economic value of the IPR. (2011/C 11/01, 2011, p. C11/61)

The holders of SEPs have a right to obtain compensation for their investment on innovation, which can take the form of an upfront cash payment, royalties, etc; due to the exclusiveness of being a patent proprietor. But in order to alleviate any possible anti-competitive behaviors of SEP holders, they are asked to make a commitment for FRAND terms. FRAND commitments aim to prevent the IPR holders from making the implementation of a standard difficult by refusing to license or by requesting unfair or unreasonable fees after the industry is locked-in to the standard (2011/C 11/01, 2011, p. C11/60).

Once a standard is disclosed, the holders of the patents related to the standard are asked by the SDOs to provide an assurance that, should their patents be essential, they will license them on FRAND terms. However, SDOs do not provide guidance on, or impose compliance with, FRAND pricing, valuation, and rate-setting methodologies; the SDOs state that pricing should be determined by patent holders and implementers outside of SDOs in the context of bilateral negotiations. Lemley & Shapiro (2013) propose a set of rules to be adopted by SDOs to achieve the goals of FRAND commitments more efficiently and with less litigation.

There are not FRAND licensing terms that fit one-to-all; instead, the royalty rates and other licence terms can differ from sector to sector, region to region, company to company, and also depend on the licensee-proprietor relationship. By the nature of the subject, FRAND commitment does not require the SEP holder to disclose the exact terms and conditions to all licensees. The “non-discrimination,” term applies to so-called “similarly-situated” licensees and if differences occur among similarly situated implementers, these need to be objectively justified based on a holistic view of relevant components, such as sales volumes, certainty of royalty payments, geographic scope, etc. However, this variability causes many disputes in terms of determining what FRAND is.

FRAND terms do not oblige SEP proprietors to grant irrevocable licences on FRAND terms which would turn into compulsory licensing and would deter many owners of valuable technology from joining to standardisation (Geradin, 2013). But, as stated in the *Huawei v ZTE* ruling⁴ of the CJEU, when an undertaking makes a commitment to grant licence on FRAND terms, this creates a legitimate expectation on the third parties that the SEP holder will grant licence on such terms.

The licensing terms are generally defined in non-disclosure licensing agreements which hamper the availability of information about royalty rates for different licensees. In accordance with that, the scarcity of information creates skepticism about whether the offered rates are really the FRAND rates because analysis of the FRAND condition is generally based on comparing licence terms and conditions offered or granted to licensees that are similarly situated. Therefore, some level of transparency with respect to existing licences is required. Although transparency requirement for the SEP landscape has been expressed in many environments, full transparency seems not possible for every type of agreement, at least under today’s trade conditions due to the secrecy and uniqueness of bilateral relations between companies. To alleviate this problem, creation of a confidential repository of existing SEP licensing agreements,

⁴ Case C-170/13

which could be used by courts, competition boards, public arbitration boards or trusted persons is proposed (SEPs Expert Group, 2021, p. 14).

It is a contentious issue whether a SEP holder may seek for an injunctive relief before courts under FRAND commitment, and if he can, under what circumstances he can recourse to injunctions without being in breach of competition rules (Henningsson, 2016) (Sidak J. , 2015). SEP implementers argue that threat of an injunction can be used as a restraint for the potential licensee to make him accepting non-FRAND terms; which might result in excluding other parties from the technology incorporated into the standard. In contrary, the other side claims that revoking the injunctive relief of the patent holders restricts their legal rights derived from IP protection, putting them into a disadvantaged position.

Depriving SEP holders' ability to seek injunction would reduce their bargaining power, creating the risk of being undercompensated (Chapatte, 2009). This situation is unsupported by law and also may lead to "reverse hold up" or "patent hold out". An intermediate approach might be limiting the use of injunctions to enforce SEPs to situations where the implementer is definitely "willing" to take a licence (Geradin, 2013). Here, the question is how to define the "willingness". An approach to distinguish "willingness" might be looking at the negotiation history between the SEP holder and the potential licensee. For instance, one could conclude that the licensee is unwilling and should thus be subject to an injunction if it: (1) has stated (or made it otherwise clear) that he will not pay for a licence; (2) does not negotiate a licence in good faith and in a timely manner; (3) conditional negotiations on the patentee's withdrawal of infringement suits; (4) refuses a reasonable offer to set FRAND terms by court determination or arbitration if no agreement is reached within a reasonable period; or (5) unduly delays the court or arbitration process, or does not adhere to the decisions of the court or arbitral tribunal (Geradin, 2013, s. 1139).

Camesasca et al. (2013) evaluates the approaches of courts in the EU in FRAND related disputes. They conclude that the courts give effect to FRAND commitment in the sense that if a prospective licensee makes a royalty offer that can be considered to be FRAND, no injunction is granted. Secondly, courts do not typically directly enforce

a FRAND rate but rather determine whether a proposed rate can be considered to be FRAND or not. Thirdly, the courts only grant injunctions if they can be convinced that the prospective licensee is unwilling. The elements that are sufficient for a court to conclude that a prospective licensee is unwilling might differ across jurisdictions, but typically involve an analysis of the negotiation between the licensee and patent holder.

SEP holders and implementers should assess the unique circumstances of a particular potential licence to differentiate it from other licences. There are, therefore, opportunities to leverage unique circumstances and arrive at FRAND licence terms. The Commission pronounced that FRAND should be determined based on considerations such as efficiency, reasonable expectations of SEP owners and implementers and widespread use of standards (COM(2017) 712 final, 2017). In 2017, the World Intellectual Property Organization (WIPO) Arbitration and Mediation Center adopted specific guidelines which aim at assisting parties and their counsellors as well as arbitrators to go through the FRAND arbitration process (Guidance on WIPO FRAND Alternative Dispute Resolution (ADR), 2017).

SEPs, FRAND, injunctions and licence terms are not just legal issues; they also involve business strategies and competitive decisions. Decision makers familiar with these developments may reduce transaction costs and come to mutually-agreeable FRAND terms based on their own unique circumstances. Practicality, flexibility and business reality remain critical considerations for pursuing well functioning FRAND licenses (Hines & Yang, 2019).

Judiciary authorities may be applied to interpret or determine FRAND royalties for SEPs. Existing patent licences comparable to a hypothetically negotiated licence can help adjudicators determine the reasonable FRAND royalty rates or damages if an infringer owes the patent holder. Calculating a FRAND royalty based on what other similarly situated licensees set in previous license agreements may satisfy the non-discrimination requirement of a FRAND royalty (Sidak G. , 2015).

In the *Sisvel v Haier* case before the Düsseldorf Regional Court, Sisvel and Haier could not agree on the FRAND rates for licensing of Sisvel's one of mobile telecommunication SEPs and Sisvel filed an infringement suit against Haier seeking

damages for Haier's use of its patents and an injunction⁵. In response, Haier claimed that the licence fee demanded by Sisvel was unreasonable. It was found that Haier had infringed Sisvel's SEPs, on the other hand the Court of Appeal⁶ found that Sisvel was violating its FRAND obligations by granting discounts to another licensee Hisense; therefore abusing its dominant position in the market. In 2020, the German Supreme Federal Court partly overruled the Court of Appeal's findings by concluding that although Sisvel had a dominant position on the market, there was no abuse of a dominant position and additionally found Haier infringing Sisvel's SEPs (Bonadio & Tanwar, 2021).

The Commission's view about defining FRAND rates is that the courts and arbitrators are well-placed to set FRAND rates in cases of disputes; if needed, national courts may apply to the Commission for the interpretation of the competition law during the evaluation period (MEMO/14/322, 2014). On the other hand, according to the court decisions of EU Member States about SEPs, the courts do not prefer to determine the FRAND rates in FRAND related disputes. The *Unwired Planet v Huawei* case was an exception for this. The case was seen in the UK, it started before Brexit (2018) and finalized after Brexit (2020). In this case it was firstly established that the English courts can decide FRAND terms based on comparable licences when a valid UK SEP is found to be infringed (Hoffmann Eitle, 2020). Though, UK government acknowledges that reliance on national courts to determine the FRAND rates is an inefficient and costly way for SEP users and owners (Standard Essential Patents and Innovation: Call for views, 2022).

Defining the FRAND licensing terms has been a cumbersome issue, for both licensors and the licensees and also for the courts in case of the litigations. This determination is context specific. There have been studies in the literature that use modeling techniques to define SEP licensing conditions within FRAND terms.

⁵ Sisvel v Haier, Düsseldorf District Court, 3 November 2015, 4a O 144/14 und 4a O 93/14

⁶ Sisvel v Haier, Düsseldorf Court of Appeal, 13 January 2016, 15 U 65/15 and 15 U 66/15.

Langus et al. (2013) model the court procedure for resolving SEP licensing disputes. The model proposes a strategic behaviour for the licensee whose offer will be evaluated as an attractive royalty by the court by eliminating the risk of being found “unwilling”. The authors found out that one sided FRAND commitment, where only the infringer can litigate the licensor due to high royalties, while the licensor cannot bring the manufacturer to court for making inadequate offer, solves the implementer’s hold up problem but does not solve the reverse hold up problem of the innovator and can thus retard innovation.

Shapiro (2010), develops a model for the royalty negotiations between patent holders and technology users accused of infringement. The developed model incorporated some key features in patent infringement cases, which are: probabilistic patents, injunction threat, patent surprise, patent on minor features, redesign time and expense, and reasonable royalties.

Denicolo et al. (2008), develops a model for more balance in the granting and denying of injunctive relief at courts. They conclude that, if patent hold up is infrequent in general – which is the case that they found out – limiting injunctions to protect against hold up is a dangerous course and might result in under-compensation for innovation.

Ganglmair et al. (2012) states that antitrust or some other body of law used as remedy to hold up problem for the patents required for application of standards might reduce the innovator’s licensing revenue and thereby retard innovation. In the study, the authors develop a model for innovation in which patent hold up is possible, then compares alternative regimes for the determination of royalties. They found out that an option-to license contract executed before the manufacturer’s investment is a good solution to the hold up problem and concluded that lower licensing fees result in less innovation.

All of the above studies on modeling FRAND rates support that even it seems that the inventor of a SEP has an advantage in terms of royalties, the limits set by FRAND licensing terms and court decisions results in less prevalent patent hold up cases for the licensees than expected.

2.3 Patent Hold up / Reverse Hold up (Patent Hold out)

Once a standard is started to be implemented, switching to an alternative technology may be difficult for the implementers, as a consequence, the bargaining power of the SEP holders increases. If the patent holder exploits the situation and asks for higher amounts of royalties or more harsh licensing terms, this is called “patent hold up”. Geradin (2013) argues that the “hold up” is particularly significant when the SEP holder is able to seek a court injunction to block the sale or import of infringing products.

‘Patent hold up’ concept was firstly defined by Carl Shapiro (Shapiro, 2000). He defines the ‘hold up’ problem as a first order significance in SEPs and argues that it is difficult to overcome this problem without radical reforms in the patent system, but he does not elaborate these reforms. In order to avoid hold up hurdles, Ganglmair et al. (2012) suggests guidelines mostly based on SDO tasks. Picht (2015) also mentions about the role of SDOs to minimize the risk of patent hold ups and potential negative consequences of hold ups.

On the other hand, Camesasca et al. (2013) claim that the risk of hold up is not a prevalent problem in SEPs as anticipated, but reverse hold up (hold out) might cause serious problems in patent system if the ability of seeking injunctions of patent holders are limited. That would reduce their bargaining power, creating the risk of being undercompensated. He tries to prove his arguments by using survey methodology, where he tries to identify the legal practices of SEPs in different Member States of the EU. In a supporting view, Picht (2015) claims that, if the courts are reluctant to grant injunctions based on SEPs, this shields the non-compliant SEP user, which is the reverse hold up case. As a result, the standard user free-rides on the innovative effort made by the SEP owner, acts against the incentivising rationale of IP protection and, ultimately, deters SEP owners from making their technologies available for future standardisation.

In some cases, potential licensees make investments on the SEP technology without being in a licensing agreement with the SEP holder based on the assumption that the SEP holder will inevitably license his SEPs due to FRAND obligations. While the

production and market supply continues on the one side, negotiations are held on the other side. But if the negotiations fail, the SEP holder has the right to seek for an injunctive relief before courts. During the litigation processes and sometimes based on court decision, the production may stop and the products might be confiscated. All these type of actions have adverse effects on the innovation, production, efficiency and investments.

2.4 Standard Essential Patents and Competition Law

Competition authorities and judicature have been approaching to the standard setting activities with deliberation, because of the fact that the standardisation process may have an inherent risk that participants use it for anticompetitive purposes (Petrovic, 2014, p. 42). The SEP holders may affect the market by restraining the competitors through blocking the availability of the standard due to the monopoly right that IPRs provide for the holders. It is important for the sustainability of the system, to balance the monopoly rights endowed to the inventor through IPRs with the public's benefit and the technology advancement provided by the competition law.

Substantially, IPRs and competition law share similar objectives of advancing innovations and increasing consumers' prosperity and alternatives. The distinction between the two law branches arises from the differences between the methods in order to reach to the objectives. Competition law bans to abuse a dominant position through anticompetitive acts, whereas IPR promote innovation by granting monopoly rights to the inventors. The disparateness of methodologies of these two law branches has been causing lots of conflicts as technological developments have reached to a dazzling pace.

Carl Shapiro's paper has been one of the earliest publications that analyse standard settings from the perspective of antitrust (Shapiro, 2000). He argues that unless antitrust law and enforcement are sensitive to SEPs, SEPs may have adverse effects such as retarding the commercialisation of new technologies and also the innovation. On the other side, Ganglmair et al. (2012) is more skeptical than Shapiro (2000) in strict applicability of antitrust laws on SEP disputes. He states that antitrust or some other body of law used as remedy to hold up problem for the patents required for

application of standards, might reduce the innovator's licensing revenue and thereby retard innovation. He claims that if the patent holder avoids making a FRAND commitment, this does not violate antitrust law.

At the first instance, the actions of SDOs may seem incompatible with Article 101 of TFEU⁷ as their activities are based on limiting or controlling the production, markets, technical development, and investment. For the reasons explained in part 2.1, the activities of SDOs are evaluated within the exemption provision regulated in Paragraph 3 of Article 101⁸ of TFEU, since they contribute to improve the production of goods to promote technical or economic progress, while allowing consumers a fair share of the resulting benefit.

According to the Organisation for Economic Co-operation and Development (OECD) report on Standard Setting (DAF/COMP(2010)33, 2011), development of standards have many benefits such as improving quality, health and safety, promoting better operation of markets, reducing transaction costs by ensuring interoperability and compatibility and enabling economies of scale. However, on the other hand in the

⁷ Article 101 TFEU Paragraph 1: The following shall be prohibited as incompatible with the internal market: all agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the internal market, and in particular those which:

- (a) directly or indirectly fix purchase or selling prices or any other trading conditions;
- (b) limit or control production, markets, technical development, or investment;
- (c) share markets or sources of supply;
- (d) apply dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;
- (e) make the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts.

⁸ Article 101 TFEU Paragraph 3: The provisions of paragraph 1 may, however, be declared inapplicable in the case of:

- any agreement or category of agreements between undertakings,
 - any decision or category of decisions by associations of undertakings,
 - any concerted practice or category of concerted practices,
- which contributes to improving the production or distribution of goods or to promoting technical or economic progress, while allowing consumers a fair share of the resulting benefit, and which does not:
- (a) impose on the undertakings concerned restrictions which are not indispensable to the attainment of these objectives;
 - (b) afford such undertakings the possibility of eliminating competition in respect of a substantial part of the products in question.

OECD report, it is pointed out that standard setting processes should be scrutinised carefully as they may provide an opportunity for collusion, deception and strategy by bringing together different players in an industry (DAF/COMP(2010)33, 2011, p. 10) which is prohibited by Article 101 TFEU Paragraph 1.

In addition to being related with Article 101/3 of TFEU, SEPs by their monopolistic nature can also fall within the scope of Article 102 of the TFEU⁹ prohibiting the abuse of dominant position in the market. Abuse of a dominant position of a SEP holder may occur in different ways, such as discriminating its competitors, asking for unfair royalty rates, forcing potential licensees to get a licensing for SEPs together with non-essential patents, forcing the licensees to cross-license, imposing no patent challenge clause and other types of exploitative and exclusionary actions (Aslan, 2016, p. 766). On the other hand, volume discounts, lump sum discounts and annual royalty caps are generally acceptable if offered to similarly situated competitors without favouring one over the others. Also, pursuing some implementers for a licence but not others is not discriminatory either, as licensors cannot be expected to pursue all implementers at the same time (SEPs Expert Group, 2021).

Being a SEP holder may entail creating or increasing the market power of the entities, but according to the Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements (2011/C 11/01, 2011), there is no presumption that holding or exercising a SEP equates to the possession or exercise of a dominant position in the market. The dominance in the

⁹ Article 102 TFEU (ex Article 82 TEC)

Any abuse by one or more undertakings of a dominant position within the internal market or in a substantial part of it shall be prohibited as incompatible with the internal market in so far as it may affect trade between Member States.

Such abuse may, in particular, consist in:

- (a) directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions;
- (b) limiting production, markets or technical development to the prejudice of consumers;
- (c) applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;
- (d) making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts.

market can only be assessed based on the unique circumstances of the case. (2011/C 11/01, 2011, p. C11/58) On the other hand, if the SEP holder fails to fulfill the FRAND obligation (such as rejection of a licensing request, failure to offer affordable licensing terms), this always constitutes an abuse of the dominant position.

Some commentators (Lemley & Shapiro, 2006) (Henningsson, 2016) (Miller, 2006) argue that a SEP holder with FRAND commitment should not seek for an injunctive litigation before courts partly or completely; otherwise this would lead to an anticompetitive behaviour in terms of abuse of a dominant position. The Mannheim Regional Court ruled on the *Motorola v Microsoft* case¹⁰ that the FRAND commitment of Motorola on H.264 standard did not operate as a “waiver of rights to obtain an injunctive relief” (Casetext, 2012). In a similar way, in the *Koninklijke Philips v SK Kassetten* case the Dutch Court held that a FRAND commitment did not preclude the patentee from obtaining an injunction (Cotter, 2014, p. 324). The courts generally make conditional on case related circumstances to decide whether the act of the holder can be respected as an abuse of a dominant position or not.

One of the earliest SEP related cases in the Member States in Europe based on EU competition law is the Orange Book Standard case of German Federal Supreme Court from 2009¹¹. The decision has become a seminal one since it was one of the initial cases reasoning the relationship between the SEPs and competition in Europe. The case was about a SEP owned by Philips, covering recordable and rewritable compact discs (CDRs and CDRWs) of which technical standards were set forth in a document known as the Orange Book. Philips, as the SEP owner, had granted a licence to many implementers under standard licence agreement but the company SK Kassetten manufactured CDRs and CDRWs without a licence. The company argued that the licence fees were excessive and also discriminatory and by this reason Philips was abusing its dominant position in the CDR, CDRW market by seeking an injunction on its SEP thereby violating Article 82 of the ECT (Art. 102 of TFEU). The question here

¹⁰ Case no: 20240/11

¹¹ Federal Supreme Court (Bundesgerichtshof) 6 May 2009 – Case No KZR 39/06 OrangeBook-Standard.

was whether a SEP holder could get injunctive relief even if the infringer had tried to obtain a licence on fair terms but the patent holder had refused it. The court started with the statement that the proprietor of a SEP is the market's sole supplier and is thus a monopolist. In its decision the German Federal Court of Justice set forth the parameters that a potential licensee can raise a competition law defence against an application for injunctive relief only if:

- i. It has made an unconditional offer to enter into a licence agreement at a fair royalty rate or at a rate to be determined by the SEP holder,
- ii. It actually acted as if it had entered into a valid patent licence, and pays royalties to the patentee or to an escrow account and adheres to a general licence covenants, including a non-challenge obligation.

According to this decision, it is not the obligation of the SEP holder to offer a licence, but if it refuses an offer from a “willing” licensee and if the “willing” licensee acts in the manner of a real licensee, the SEP holder may be abusing a dominant position in case it seeks to obtain an injunctive relief (Lundqvist, 2015, p. 368).

The German Federal Court of Justice's decision was followed by the lower German courts and appeal courts in subsequent cases of SEPs concerning injunction requests for a long time (Organisation for Economic Co-operation and Development, 2014, p. 4); however some other courts in other Member States declined to apply the reasoning of Orange Book case; for instance the Court of the Hague declined to apply it in the *Philips v SK Kassetten*¹² case. The Dutch Court concluded that the terms defined by the Orange Book decision are not in accordance with the patent law and it would create uncertainty in application (Helwegen, 2010). According to the Dutch Court, there was no licensing between *Koninklijke Philips v SK Kassetten*, therefore the rights of Philips as a patent proprietor are not affected by the presence of FRAND commitment; then Philips is permitted to exercise its rights of injunctive relief (DeVille, 2012).

¹² Joint cases No. 316533/HA ZA 08-2522 and 316535/HA ZA 08-2524 Koninklijke Philips Electronics N.V. v SK Kassetten GmbH & co. KG [2010] District Court The Hague

The decision of the German Federal Court of Justice has been criticised for imposing a heavy burden on the potential licensee including, stipulating the licensing, determining the boundaries of fair terms, presenting a licence proposal and acting as a licensee if the SEP holder refuses to make an agreement (Henningsson, 2016). It has also been noticed that, Orange Book case did not allow potential licensees to question validity, essentiality or the royalty rate (Lundqvist, 2015). However, Orange Book is a landmark case as being the first decision to define the “willing licensee” conditions which become a concept in the EU later on to determine if the litigation is anti-competitive or not on FRAND terms (Henningsson, 2016, p. 444).

Another SEP related decision is by the Higher Regional Court of Karlsruhe on litigation *Saint Lawrence v Deutsche Telekom*¹³. Saint Lawrence was a non-practicing entity who became the owner of the SEP-in-suit a year before bringing the infringement before the court. Previous owner had declared its willingness to grant licenses on FRAND terms but the defendant showed no interest. After the infringement proceedings started, the claimant contacted the defendant for an offer but the defendant did not accept the offer and made a counter offer; subsequently the claimant made another offer but the defendant again rejected that offer. Accordingly, District Court of Mannheim granted an injunction. The defendant applied to the Higher Regional Court of Karlsruhe to stay the execution of the District Court Decision. The Higher Regional Court partly granted the defendant’s application to stay the execution. The reasoning of the Higher Court was that bringing legal proceedings against distributors rather than the manufacturers, would put a significant pressure on the manufacturer and may distort the licensing negotiations. As a result the Higher Court found the action of Saint Lawrence, abusing of dominant position in the market (4iP Council, 2015).

The CJEU ruling on *Huawei v ZTE*¹⁴ case in 2015 (which is discussed in part 4.2.1) made a clearer description of the circumstances that seeking for an injunctive relief for a FRAND encumbered SEPs violates Article 102 TFEU. The CJEU ruling can be

¹³ Higher Regional Court of Karlsruhe, April 2015, Case no: 6 U 44/15

¹⁴ Case C170/13

considered as a milestone in SEP litigations by defining clear guidelines to be followed by both of the parties; the decision have had a significant impact in the EU Member State court decisions on SEPs. As a result, the discrepancies among courts of different Member States managed to obtain some convergence. When compared with the Orange Book case, which has been criticised by being in favour of patent holders, *Huawei v ZTE* ruling approach is more balanced for holders and implementers.

Two examples of the Member State court decisions after the *Huawei v ZTE* ruling are: *Philips v Archos*¹⁵ and *Sisvel v ZTE*¹⁶.

In the *Philips v Archos* case, the claimant sent an infringement notification to the defendant and next, it made a licensing offer. The defendant made a written counter-offer but the parties could not reach an agreement and Philips brought an action against Archos. The court asked from the claimant to prove the validity and essentiality of patent-in-suit and specify the way in which it was infringed. The Court concluded that the claimant's reply did not fulfill the *Huawei v ZTE* requirements, since Philips did not substantiate the manner of infringement and the way of calculating FRAND royalties and therefore abused its dominant position by going for an injunction litigation (4iP Council, 2016).

In the *Sisvel v ZTE* case the Regional Court Düsseldorf adopted a less-demanding approach when compared to *Philips v Archos*, holding that the SEP owner does not have to provide detailed technical or legal explanations as long as the implementer is able to assess the alleged infringement with the help of technical and legal experts. Regarding fulfillment of *Huawei v. ZTE* requirements, the Court noted that the ability to repeat or cure any of the required steps is not unlimited. The Regional Court also held that the SEP owner remains obligated to provide a licence offer under FRAND terms even if the implementer refuses to sign a confidentiality agreement. Rejecting to sign a confidentiality agreement does not indicate “unwillingness” of a potential licensee. In order to evaluate FRAND compliance of the royalty rates and assess “non-

¹⁵ Regional Court Mannheim, 1 July 2016, Case: 7 O 209/15 and 17 November 2016, Case: 7 O 19/16

¹⁶ Regional Court Düsseldorf, 13 July 2017, Case: 4a O 16/16

discriminatory” element, the Regional Court Düsseldorf required that the SEP owner provide all patent licence agreements relating to the patents in dispute or the relevant patent portfolio (Morrison Foerster, 2019). The Court concluded that the plaintiff was not abusing its dominant position and can claim damages from the defendant (Kather Augenstein Rechtsanwälte, 2017).

Overall, when the SEP related case decisions are evaluated the courts aims to create a fair balance between the interests of SEP holders (by rewarding a fair return for their innovation) and implementers (for providing easy access to the standardised technology) based on competition law and the decisions and the rulings evolve and get better by the time in alleviating the dispute creating issues in SEPs.

2.5 Standard Essential Patents Licensing Strategies

The ability of companies to appropriate the returns from their innovations through patent protection is a key driver of the willingness of firms to invest in innovative activity and a key determinant of company strategy (Arora & Ceccagnoli, 2006). By way of licensing, patent owners can appropriate the returns on their investment. Patent licensing provides a partnership between the patent owner and the licensee where the licensee can use the patent in its applications by paying a determined royalty to the patent holder. In a conventional licensing system, the licensee pays a fixed rate of its turnover to the licensor (Hytönen, Jarimo, Salo, & Yli-Juuti, 2012).

Different companies involving in licensing negotiations may have different interests; therefore it is almost impossible to find one solution fits all for the SEP licensing agreements. The companies define the most suitable SEP licensing strategy based on their business goals. Sometimes, the licensing related actions of companies might be opportunistic and they should be carefully evaluated in terms of competition rules.

“Pure upstream” companies, focus their efforts on innovation and license their technologies to manufacturers. Their revenues mainly depend on licensing fees, therefore they generally want to maximize royalty revenues and thus enforce their patents vigorously (Geradin, 2013).

“Vertically integrated” companies, which both innovate and manufacture, tend to have mixed incentives. They may want to maximize licensing revenues by aggressively licensing their SEP portfolio (Geradin, 2013). On the other hand, because they also manufacture and sell products, they might also be the receiving end of royalty requests from other SEP holders. In this context, vertically integrated companies tend to conclude “cross-license” agreements with each other with some limited royalty payments when one of the parties has a stronger patent portfolio than the other. For instance, the companies performing in the telecommunication industry are more active in cross-licensing agreements (Bekkers, et al., 2014, p. 69). The use of their own patents as a freedom to operate is a complementary strategy for vertically integrated companies (Bekkers, et al., 2014, p. 77).

It is common for SEP holders to cross-license their SEP portfolios to one another, enabling each party to manufacture its standard-compliant products without infringing the other’s SEPs, and to receive compensation for its contributions to the standard. The party whose SEP portfolio contributes less value to the relevant standards pay the net-balancing royalty (Sidak G. , 2015).

“Pure manufacturers” which are also called “downstream companies” generate almost all of their revenues through the sale of products. Their products or services rely on technologies developed by others and do not hold relevant IPRs. They seek to minimize royalty payments to minimize their manufacturing costs (2011/C 11/01, 2011, p. 57).

The strategies of some companies may change through time. For instance, vertically integrated companies with successful manufacturing, may express concern over cost of licensing fees, but after their products lose their share in the market, they may try to license their patent portfolio. Ericsson and Nokia used to have large operations of handset device before, but nowadays their business is based on licensing fees paid in cash (Mallinson, 2015, p. 65). On the other hand, major implementers such as Apple, Huawei, LG and Samsung with substantial market shares of device sales in recent years, tend to minimize licence fee outpayments through cross licensing (Mallinson, 2015, p. 61).

In 2006, Nokia, Motorola and Ericsson proposed ETSI to review its IPR policy and to clarify the meaning of FRAND by codifying the two principles of “aggregated reasonable terms” and “proportionality”. It was claimed that this would help ensure cumulative royalties for standardised technologies that were available at commercially reasonable levels for prospective licensees (Frain, 2006). However, these three companies have changed their strategy to maximising the royalties after their products have lost the market share once they had (Geradin, 2013).

When different patentees own a number of patents relevant to the standard, a patent pool can be set up. A pool enables participating patentees to use the pooled patents, provides a standard licence in respect of the pooled patents for licensees who are not members of the pool, and allocates to each member of the pool a portion of the licensing fees in accordance with the agreement. Patent pool agreements may provide competitive benefits through, for example, bundling patented technologies, removing patent-blockages or avoiding the need to conclude multiple licences. They are less prone to over-claiming since they require a patent examination process that all patents are actually essential, which is generally conducted by an independent party (Blind, et al., 2011). Patent pools are applied widely in consumer electronics¹⁷ sector due to large number of licensors and licensees in order to realise smooth and fast licensing processes (Bekkers, et al., 2014, p. 69).

On the other hand, certain types of patent pool agreements, for example, where they include patents that are substitutes for each other, may raise concerns as to their effect on competition (WIPO website). They might have complex combinations of pro-competitive and anti-competitive effects (Bekkers, Bongard, & Nuvolari, 2011). It has to be ensured that patent holders will not use a patent pool to fix and raise prices, limit output and block further innovation (Choumelova, 2003). Patent pool administrators usually give information to European competition/antitrust authorities about the rules

¹⁷ Consumer electronics are composed of video electronics, audio electronics and entertainment products, such as tablets, smartphones, televisions, etc.

of the pool and seek clearance. The effects are evaluated and if the pro-competitive effects outweigh the anti-competitive effects, the pool is allowed (Blind, et al., 2011).

For instance, while bilateral licensing is possible in IoT including connected vehicles, the reduced transaction costs and other benefits inherent in patent pooling is highly attractive to both licensors and licensees. Once, all major cellular SEP owners prefer to license bilaterally to the relatively small number of handset Original Equipment Manufacturers (OEMs), they now prefer to license these SEPs into the numerous different vertical sectors in IoT through a pool.

SEP holders and technology implementers may sometimes apply non-fair strategic steps in order to increase their profits. A SEP owner may deliberately claim more patents to be standard related than they actually are (over-claiming), so that it can obtain more bargaining power against the implementers in licensing negotiations (Petrovic, 2014, p. 46). If the potential licensee does not check the standard relation of the patents in question, it is almost not possible to determine whether the proposed list of patents are standard related or not because generally SDOs do not give opinion about the validity and the essentiality of the patents. Therefore, it is predictable that the number of patents declared to be essential is higher than the real case.

SEPs Expert Group (2021), which was set up based on the Commission decisions of 2017 (COM(2017) 712 final, 2017) with the view to combine industry practice and additional expertise on FRAND licensing, states that since there is no systematically essentiality checks for declared SEPs, there is a lack of transparency about the ownership of the SEPs following the adoption of the standard and therefore what licences should be obtained to implement the standard and also the estimated royalties for the standards cannot be foreseen by the implementers.

Goodman and Myers (2005) had a study¹⁸ on the patents and patent applications declared essential to the 3GPP and 3GPP2 third generation cellular technology

¹⁸ The findings of this research were criticized by Martin and Meyer (Martin & Meyer, 2006) claiming that there were methodological flaws to obtain reliable inferences to be drawn from the sample of “essential” patents examined.

standards. They found out that three quarters of the declared patents were assigned to four companies and concluded that approximately only 21% of the declared patents were actually essential. Over-claiming is difficult to detect and it could be detected only when litigated or some controversial issues occur; actually it is a laborious task to analyse all the claims to find out whether they are truly essential for a standard or not (Blind, et al., 2011). Furthermore, stakeholders generally complain about patent holders' failure to substantiate their claims with precise information about their essentiality.

Providing transparency prevents many of the disputes in SEP cases. For instance, in the smart grid industry, transparency is high since the agreements are mainly on tenders and it is obligatory to disclose the patents related to the standards in the tenders; additionally the number of actors in the sector is low. As a result, the number of disputes is low in the smart grid industry and they can be solved more easily without the involvement of the courts (Bekkers, et al., 2014, p. 106).

Some other deceptive acts of SEP owners are giving false statements during the standardisation process, such as the owner might be silent during its patent is implemented in the standard and hide to own a relevant patent for the standard in question (Petrovcic, 2014, p. 46). So that, these SEP owners might avoid to disclose their commitment of FRAND licensing terms. This act is called "patent ambush" (Podszun, 2019). These types of misleading acts might distort the objective of the standardisation processes.

Other opportunistic behaviors of the SEP holders might be, refusing to license the standard related patents to some of the implementers, asking for excessive royalty rates, imposing mandatory cross licensing conditions or clauses that harm the rival's competitiveness in the market, or imposing "no patent challenge" clause in the licensing agreements.

On the other side, implementers' non-fair acts about SEPs might include, free riding on SEPs by excusing FRAND rates and accusing the SEP holder of breaching the competition law if the holder moves to litigation processes. So that, the implementer

might prolong the negotiation period with the aim of frustrating the SEP holder or lowering the costs by extending the duration.

2.6 Case Examples Regarding Standard Essential Patents

The cases where SEPs have been discussed, can be elaborated based on the case law to make some points clear from the case law examples. The SEP related cases heard in the EU courts can be classified into two groups, in general. First the SEP holder might claim for injunctive relief against a patent infringing party. A second possibility of claims may arise under the competition rules that a potential licensee may take an action against the SEP holder for the abuse of its dominant position in the market. The types of disputes over SEPs in litigations are summarized in Figure 4.

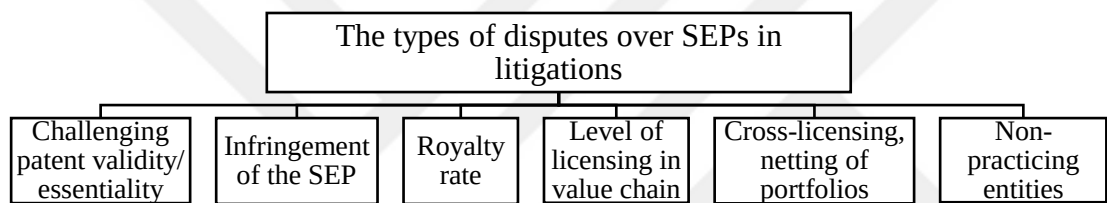


Figure 4: The types of disputes over SEPs in litigations (Frey, 2014)

In 2011, Motorola sued Microsoft in the Mannheim Regional Court, alleging infringement of the German EP0538667 and EP0615384 patents¹⁹, both of them were SEPs for which Motorola had given FRAND commitment to ITU for the H.264 standard. Motorola sought an injunction prohibiting Microsoft from selling allegedly infringing products in Germany, including the Microsoft Xbox gaming system and certain Microsoft Windows software. On May 2, 2012, the Mannheim Court issued its ruling. First, the court held that Microsoft did not have a license to use Motorola's patents. Second, it rejected the argument that Motorola's FRAND commitment to the ITU created a contract enforceable by Microsoft. Finally, the German court held that Microsoft had infringed Motorola's SEPs, and enjoined Microsoft from "offering,

¹⁹ Case no: 20240/11

marketing, using or importing or possessing H.264 standard including products in the territory of the Federal Republic of Germany. The German court rejected the argument that a FRAND commitment operates as a “waiver of claims for injunctive relief” (Casetext, 2012). The injunction decision of the German court created a great problem for Microsoft, since its European distribution center was located in Germany and the injunction decision would prevent distribution in whole Europe; as a preliminary action before the court concluded its decision, Microsoft moved its distribution center to the Netherlands at the cost of approximately USD 11.5 million (Schweiser, 2015).

In 2016, Wiko sued Sisvel before the Tribunal de Commerce de Marseille²⁰, claiming that Sisvel had practiced unfair competition by sending letters to French distributors and customers of Wiko, alleging that Wiko had infringed its patent essential to the LTE standard. The court cited CJEU’s 2015 judgment in *Huawei v ZTE* (see part 4.2.1), in which the court sets forth the conditions that a SEP owner seeking an injunction against the alleged infringer must satisfy in order to avoid abuse of dominant position. According to the *Huawei v ZTE*, the SEP holder must first alert a party of its alleged infringement before bringing an action. The court noted that Sisvel was complying with the rules set by the CJEU and it was making a proper offer for a licence. The court therefore concluded that letters sent by Sisvel did not amount to an act of unfair competition (Bonadio & Tanwar, 2021).

In the EU, national courts deal predominantly with the issue of injunctions. For the patent infringement cases of SEPs, two types of injunctions are enforced: (i) permanent injunctions following a final determination that the patent claims are infringed; or (ii) preliminary injunctions occurring before the final determination on the merits (Cotter & Golden, 2015). Preliminary injunctions in patent infringement cases are allowed in the EU by a CJEU ruling²¹. The court orders in infringement cases might include, but not limited to (Yeşil, 2017, pp. 13-14):

- Ceasing the patent infringement acts,

²⁰ Wiko v Sisvel, Tribunal de Commerce de Marseille, 2016, Case No. RG 2016F01637.

²¹ C-44/21, *Phoenix Contact v Harting*

- Seizing the goods which were manufactured or exported through infringing a patent,
- Seizing the manufacturing instruments used for patent infringing goods,
- Seizing the instruments that is used in the infringed patented methods,
- Interim injunctions to avoid patent infringements,
- Destroying the seized goods or instruments if patent infringement is unavoidable.

A European Commission research showed that SEPs are more than five times as likely to be litigated in comparison with non-essential patents and the number of SEP related litigations has increased significantly over the last 20 years (KD-AK-14-008-EN-N, 2014). The reasons behind the increase in the number of SEP litigations are: firstly, increasing number of SEP filings; secondly, the shift from connectivity standards (e.g. 4G/5G, Wi-Fi) mostly incorporated in computers, smart phones, and tablets to new industry applications where standards are implemented in connected vehicles, smart homes, smart factories, smart energy and/or healthcare applications (Pohlmann, SEP Litigation Trends: What Does, 2021, p. 1).

On average, SEP holders start contacting implementers two years after publication of a standard and then it takes on average 3 years and 3 months to conclude a licence. If the parties could not come to an agreement at negotiations, the litigation procedures start and the processes take longer, generally a few more years (Ares(2022)4420492, 2022).

European Patent Convention (EPC) and EPO do not provide a restriction about the place of courts of litigations, accordingly parties may strategically choose national courts for their litigation (called ‘forum shopping’), based on the knowledge that some national courts will give them particular advantages (Bekkers, et al., 2014, p. 49). German courts are generally preferred by patent holders for litigation as they are said to be being advantageous in terms of competence and cost (Blind, et al., 2011) and also for their decisions heavily in favour of the patent holders to grant injunctive relief to SEP holders (McDonagh & Bonadio, 2019, p. 18). The SEP holder favoured attitude might be mainly due to Germany’s research and development supporting policies.

Also, German courts system have a bifurcation structure, where the validity of patents and infringement cases can be dealt with different courts and this system highly attracts SEP holders (Cremers, Gaessler, Harhoff, & Helmers, 2014, p. 26). When compared to German practice, Dutch and French courts are more reluctant to grant injunctive relief in favor of the patentee (Pentheroudakis & Baron, 2017, pp. 73, 74). However, there are divergent court rulings on SEPs and this causes variances in application throughout the EU (Ares(2022)4420492, 2022, p. 4).

The Unified Patent Court (UPC) in the EU is a court common to all the contracting states²² party to the Unified Patent Court Agreement (UPCA) which is going to enter into force on 1 June 2023. It is set up to decide on the infringement and validity of both Unitary Patents as well as classic European patents validated in one or more of the contracting Member States. The UPC will help to avoid the high costs, risk and complexity associated with multiple litigation in different jurisdictions. It is expected that the UPC will establish a harmonised case law and increase legal certainty on SEPs and non-SEPs infringement and validity related cases (Unified Patent Court website) (EPO website). The Unified Patent Court may provide opportunity for discussing different approaches to FRAND disputes (Simmons & Simmons LLP, 2022).

It is a fact that, going for a litigation is a complicated task, since it requires lots of expenditures, time and bureaucracy. It is estimated that the court costs of SEP litigations are around EUR 2.1 million for essentiality, EUR 6.6 million for injunction and EUR 7.1 million for FRAND disputes (Ares(2022)4420492, 2022, p. 6). Before choosing the court option, Alternative Dispute Resolution (ADR) mechanisms, arbitration in particular, might be a choice with less cost and time. Average duration of arbitration is between 13 and 16 months whereas litigation cases may last more than three years; for example, the first instance proceedings of both the *Unwired Planet v*

²² 24 EU Member States (except Croatia, Poland and Spain) signed the UPCA, 17 of these states have ratified it (Austria, Belgium, Bulgaria, Denmark, Estonia, Finland, France, Germany, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Portugal, Slovenia, Sweden). The UPCA is open to accession by other EU Member State but not open to states outside the EU. The UK withdrew its ratification of the UPCA due to Brexit.

Huawei case (in the UK) and the *TCL v Ericsson* dispute (in the US) lasted more than three years.

ADR for SEP disputes is also supported by administrative and judicial bodies and institutions such as WIPO. The CJEU's *Huawei v ZTE* decision provides for the determination of FRAND licensing conditions through an independent third party in case the parties fail to agree on such conditions. Given the broad wording, which does not expressly refer to courts, the leading view takes this passage to include arbitration mechanisms (Picht & Loderer, 2019). In its Communication in 2017, European Commission states that (COM(2017) 712 final, 2017):

“The Commission takes the view that alternative dispute resolution (ADR) mechanisms such as mediation and arbitration can offer swifter and less costly dispute resolution. While there can be no obligation for parties to use ADR, the Commission believes that the potential benefits of this tool are currently underexploited.”

ADR mechanisms may also decrease barriers to entry for innovators and may give parties a more informal and flexible dispute environment, more control over the proceedings as well as ensure enhanced and improved communication within the proceedings themselves (Bonadio, Filatova, & Tanwar, 2022). Moreover, ADR mechanisms may also prevent patent owners from demanding non-FRAND rates as the implementers have a low-threshold resolution mechanism (Bekkers, et al., 2014, p. 179).

2.6.1 Anti-suit Injunctions Related to Standard Essential Patents in the European Union

Litigations concerning SEPs have become increasingly global, with parallel litigations occurring over the same issues in different country jurisdictions. As a result, some mechanisms to coordinate these actions are sought, both to manage costs and to avoid inconsistent and incompatible results. ASIs are presented as a procedural mechanism to prevent multi-jurisdictional litigations on the same subject and its popularity in SEP disputes has been growing (Contreras & Eixenberger, 2017) .

ASIs prevent an opposing party from commencing or continuing the same legal action in another or foreign jurisdiction or enforcing a judgment obtained in foreign legal proceedings. ASIs reduce the likelihood of inconsistent results by ensuring that issues are resolved in one jurisdiction before they are litigated elsewhere. In the SEPs context, ASIs can be particularly powerful tools for prospective licensees alleging that SEP holders have failed to comply with their FRAND licensing obligations. Specifically, a court reviewing a SEP holder's compliance with a FRAND licensing commitment may issue an ASI to prevent the SEP holder from bringing foreign patent infringement claims until the FRAND licensing dispute has been resolved in the issuing jurisdiction (Contreras & Eixenberger, 2017) . So that, the prospective licensee can focus its resources on a single case without the threat of faster-moving suits in other countries.

United States Courts' ASI decisions affecting The EU Member States' Injunction

Decisions: The Western District Court of Washington issued an ASI which prohibited Motorola from enforcing an injunction of the Mannheim Patent Court against Microsoft, which is discussed in part 2.6 (Thomson Reuters, 2012). From SEPs perspective, the objective of the ASI mechanism is to ensure that FRAND disputes are resolved before injunctions are issued on the basis of an incomplete record.

In *TCL v. Ericsson*, TCL filed a breach of contract claim in the United States (US) District Court for the Central District of California alleging that Ericsson breached its obligation to license certain SEPs on FRAND terms (TCL v Ericsson, 2019). TCL sought an anti-suit injunction to prevent Ericsson from maintaining patent infringement actions against TCL under corresponding patents in France, Brazil, Russia, the UK, Argentina, Germany, and the Eastern District of Texas. The district court granted an ASI only against the foreign lawsuits (Ericsson v TCL, 2015).

ASIs within the EU: ASIs might have some adverse effects such as they can serve as a barrier for SEP holders launching injunctions against infringers of their SEPs. In the EU Member State jurisdictions, ASIs are generally found offensive and they are granted rarely. Also, the power of the Member States' courts to grant ASIs intra-EU is considerably constrained by the EU Law. Article 29(1) of the Regulation (EU) No 1215/2012, which is also known as Brussels Regulation (Recast) states that:

“Without prejudice to Article 31(2), where proceedings involving the same cause of action and between the same parties are brought in the courts of different Member States, any court other than the court first seised shall of its own motion stay its proceedings until such time as the jurisdiction of the court first seised is established.”

So, in accordance with Article 29(1), once a proceeding begins in the courts of any EU Member State, all other courts within the EU must decline jurisdiction over parallel proceedings. As a result, granting an ASI to prevent a party from maintaining an earlier-filed suit in an EU Member State is inconsistent with Article 29(1) (Contreras & Eixenberger, 2017). This article aims to prevent tactical proceedings issued in different EU Member States, for instance, in Italy there is a tendency of instigating proceedings in a foreign jurisdiction for dilatory purposes, even this practice has a name of “*Italian torpedo*” (Salerno & Buswell, 2021). Moreover, a potential licensee seeking for ASI may be deemed as “unwilling licensee” in the SEP cases, resulting in injunctive relief decision of the court in favour of the SEP holder. The Munich Regional Court and the Dusseldorf Higher Regional Court have decisions in this context (Foss Patents, 2022).

Chinese Courts’ ASI Decisions affecting The EU Member States’ Injunction Decisions: ASIs granted by courts out of the EU may prevent enforcing EU member court decisions. One of the examples is that Chinese Supreme People’s Court granted an ASI in the case *Huawei v Conversant*. This prevented Conversant from enforcing a German injunction against Huawei (Yu & Contreras, 2020). Another example is that the Wuhan Intermediate Court issued an ASI in a dispute between Samsung and Ericsson, on the basis of Samsung's application to the Chinese court to set a global FRAND licence rate for Ericsson’s SEPs on 4G and 5G. In issuing the ASI, the Chinese court established its jurisdiction, prohibited Ericsson from enforcing an injunction against Samsung under its 4G and 5G patents, and declared that Ericsson may not have a FRAND licence set by any other court. It also prohibited Ericsson from seeking an order elsewhere to restrict Samsung from enforcing the ASI from Wuhan (Klos, 2021). The Supreme People's Court also decided that violation of that order can be sanctioned with a €130,000 daily fine (Garcia Ferrer & Lerebours, 2022).

The Shenzhen Intermediate People's Court ordered Conversant not to enforce Dusseldorf injunction it had won against ZTE in September 2020 and also, the same Shenzhen Court instructed Sharp not to file any further patent infringement cases or request an injunction against Oppo outside China in October 2020 (Houldsworth, 2022).

Some commentators argue that the trend of Chinese courts to grant ASIs effecting outside of its borders might have many disadvantages in the near future when the size of the Chinese market is considered both as a developer and as an implementer of SEPs (Iancu, 2022). There are also concerns from the EU side regarding the lack of transparency of China's court decisions since they apply secrecy to the court decisions relating to the injunctions (Houldsworth, 2022).

Recently, the Commission has launched a case against China at the WTO for restricting EU companies from going to a foreign court to protect and use their patents, through ASIs. Accordingly, the patent holders that go to courts outside China face severe fines in China and this situation obliges them to agree for licensing fees below market rates or even for free access. The Commission alleges that the ASI policy of China extremely damages to innovation and technological development in the EU and deprives EU companies to exercise their patent related rights; therefore the EU side is seeking a political and institutional fix. The Commission argues that China's actions are in breach of the WTO Agreement on TRIPS (Garcia Ferrer & Lerebours, 2022). The Commission has asked for the establishment of a WTO panel to tackle the alleged abuses (Houldsworth, 2022).

Multi-Anti Suit Injunctions: In addition to ASIs, there have been anti-anti suit injunctions (AASIs), which prevent a party from seeking or enforcing an ASI in the first place. AASIs have been filed in various FRAND disputes in a number of jurisdictions, and are increasingly being seen in the EU. For example, the Paris Court of Appeal granted an AASI to prevent Lenovo and Motorola from enforcing an ASI that they had obtained against ICom in the US (Bonadio & McDonagh, 2020). To make matters even more complicated, the possibility of an anti-anti-anti suit injunction (AAASI), to prevent a litigant from obtaining an AASI to block another litigant from

requesting an ASI, and then anti-anti-anti-anti suit injunction (AAAASI), has arisen, accordingly. The Regional Court of Munich issued an AAAASI in favour of InterDigital in its dispute with Xiaomi. This prohibited Xiaomi from enforcing an ASI issued by a Chinese court. The AAAASI means that InterDigital can file patent infringement proceedings against Xiaomi in Germany (Klos, 2021).

As a precaution to prevent ASIs, the regional courts in Munich and Dusseldorf have started to granting AASIs preemptively where no application for an ASI has been made, against the risk of an ASI application (Houldsworth, 2022).

To conclude, the proliferation of international jurisdictional conflicts and competing anti-suit injunctions has raised legitimate concerns in the EU. Although, ASIs were presented as a solution for inconsistent and incompatible results due to multi-jurisdictional litigations, at the point arrived, ASIs themselves have become a problematic issue in need of a policy development with the adverse effects of causing extra burden for the courts, international jurisdictional battles and providing a legal basis for the free rides on SEPs.

CHAPTER 3

STANDARD ESSENTIAL PATENTS IN EUROPEAN UNION LAW

Despite the fact that SEPs are not directly regulated in the EU Law from the early versions of the EU treaties, policy developments related to SEP issues have been a subject undergoing intense focus in the last few years in the EU. SEP related problems, solution suggestions and policy needs have been emphasized in different platforms by the Commission. The policy initiatives can be summarised as in the following.

The Commission aims to settle a SEP system that attracts and enables investments in research and innovation, standardisation and connectivity. Its objective is ensuring that businesses, public authorities and consumers can fully get benefit from the potential of IoT, DSM and 5G. The system should guarantee FRAND terms fit for both patent holders and the licensees. It is envisaged that a balanced EU policy on SEPs contribute to consolidate the central role of European SDOs, European innovators and implementers that play a key role in the international arena for the advancement of technologies. It has critical importance when one of the primary aims of the EU which is to “promote scientific and technological progress” is considered.

The Commission emphasizes that a balanced SEP framework supporting a sustainable and efficient standardisation system and licensing environment is a necessity to reap the full benefit of the Single Market and Digital Single Market (COM(2017) 712 final, 2017).

One of the earliest comprehensive EU documents focusing on SEPs is the Commission’s (then Commission of the European Communities) March 2008 dated document ‘Towards an increased contribution from standardisation to innovation in Europe’ (Commission of the European Communities, 2008). Before that, there were

recommendation or mentioning type documents, identifying standardisation as a key instrument for fostering innovations, such as one of the activities stated in (Decision No 1982/2006/EC, 2006) that mentions about ‘standards for interoperability’. In (European Parliament Resolution 2006/2274(INI), 2007) it is stated that setting interoperable European standards will support the development of lead markets in the services and high-tech fields thereby putting European businesses at an advantage over other players in the global market.

SEPs are indispensable elements of digitalisation for the strategy to create a Digital Single Market (Vandystadt, Caudet, Frenay, Fougner, & Pietila, 2016). In accordance with that, SEPs have critical importance for the economy of the EU. In addition to the big players in the market, SEPs landscape may pose particular challenges for SMEs and start-ups active in digital industry. Therefore, regulative precautions might be facilitating for these types of enterprises. The Commission aims to improve transparency and predictability in SEP licensing by encouraging industry-led initiatives in the most affected sectors.

3.1 Standard Essential Patents and European Integration

Before 1977, the administration and litigation of patents was an area exclusive to the EU Member States. Under this system, patent granting and hearing cases involving patent infringement were under sole control of each Member State separately. In an effort to harmonise the patent processes across Europe, EPC entered into force in 1977 and EPO was formed (The History of the EPO). EPC provided unifying the requirements and methods used in the granting of a patent and EPO was tasked with the administration of the European patent. Although all EU Member States are party to the EPC, EPC operates as a treaty separate from the EU though EPO and the EU have close relationship.

However, despite EPC was taken into effect; nothing significant has changed about patent protection system in the EU since 1977. EPC does not provide an EU-wide patent protection, it only provides easy processing of European patent granting to enter into the patent system of each Member State where the patent laws are different from each other. Additionally, many states require that this filing be done in the national

language of the state and charge additional processing fees (Yarsky, 2017). Patent infringement cases must be litigated in the Member State in which the infringing occurs.

Before the unitary patent and the UPC, there were attempts to harmonise the patent law across Europe. During 1949, a plan for setting up of a European patent system was submitted to the Council of Europe, but it failed. Shortly after EEC was created, in 1959, the Netherlands and Germany proposed for a unitary patent system but it was also failed due to disagreement between the six Common Market countries. By then, PCT system was taken into force in 1970 by the WIPO and it was actively pursued in the US, establishing a system of uniform search and uniform examination procedure in the participating countries. Depending on this improvement, France proposed the European patent system once again pursuing a system for granting patents covering the Common Market (Singleton, 1979, p. 120). This effort resulted in the EPC in 1973, and it was taken into force in 1977.

Following the completion of the EPC, “the Convention for the European patent for the common market” (Luxembourg Convention) was held in 1975 formed to create a unitary patent within the EU; however it was failed mainly due to disagreements over the language requirements (Yarsky, 2017) and the share on fee income (Ullrich, 2006). Another attempt was made in 1989 by “Agreement on the Community Patent” which tried to solve the disputes between Member States and proposed the translation of the patents in all languages of the participating states. An agreement could not be reached again, because the proposal was complex and translation costs would be huge (Ullrich, 2006) (Smit, 2015).

The Intergovernmental Conference of Member States of the EPO on the reform of the patent system in Europe was held in 1999 in Paris, and in that conference a renewed interest in patent harmonisation in the EU occurred and various methods to achieve this objective were discussed. Additionally, the creation of a court which is bound by the rulings of the CJEU to allow SMEs to defend themselves against an increasingly fragmented market was also discussed (Yarsky, 2017). In unifying the patent system effort, the creation of the Single Market in 1993, as a result of Single European Act,

had significant effect; since a fragmented patent system was causing flaws in the functioning of the Single Market.

The Uruguay Round of trade negotiations, which began in 1986 and concluded in 1994, was also notable for formal integration of intellectual property rights into international trade rules (Understanding the WTO: Basics The Uruguay Round). As a product of Uruguay Round, WTO was launched in 1995 and one of its main pillars was the TRIPS Agreement (Athreye, Piscitello, & Shadlen, 2020). In order to be effective in the international trade, especially in terms of information and knowledge intensive industries, EU member countries adopted the TRIPS provisions for a stronger IP protection including patents (Athreye, Piscitello, & Shadlen, 2020) as innovations play an important role in stimulating economic growth, improving quality and rational use of resources (Bazhenova, Dluhopolskyi, Zatonatska, Bedianashvili, & Zhylynska, 2020). Just after the TRIPS Agreement, in 1997, the Commission published “Promoting innovation through patents” document, aiming to resolve the disputes between the Member States and removing the effectiveness barriers of protecting patent in Europe; this can be marked as the first attempt by the Commission to establish a unitary patent (Smit, 2015) .

At the end of the 1990s economic and technological leadership in the world was shared among three regional powers in the world; i.e. Northern America, Western Europe and East Asia. In order the EU to sustain in this landscape, it should be focusing on innovativeness and technological progress for the economic growth and accordingly, in 2000 European Summit in Lisbon, it set the goal of “becoming the most competitive and dynamic knowledge-based economy in the world” (Hanusch & Balzat, 2004). The central core of this objective may not be the patent protection, but it was deemed as an essential component to provide dynamic competition (Ullrich, 2013) and in this 2000 Summit, the Community Patent was identified as a key element in ensuring that the EU become the most competitive and dynamic knowledge-based economy in the world.

The "European idea" to bring about European-wide political and economic integration, has ever since been based on the willingness of the EU members to give up some facets

of their national sovereignty in favour of the community. However in terms of creating a EU-wide patent system, there were countries such as France, Germany and the UK (before Brexit) that strived for accelerating the European integration process while there were also the Member States who did not want to give up any further rights of national sovereignty and continue with the status quo of the EPC, such as Spain and Italy (Hanusch & Balzat, 2004).

In 2007, the Commission published a Communication on ‘enhancing the patent system in Europe’, where it was underlined that European patents were about nine times more expensive than Japanese and US patents, which would impose unnecessary costs on European economies. Accordingly, at the end of 2009, the Council has reached an agreement on unitary patent system; however, the member states were unable to reach unanimity on the language arrangements. Spain and Italy objected to an EU patent restricted to English, French, and German. Consequently, twelve member states expressed their desire to establish “enhanced cooperation”, which is a differentiated path of integration (Schimmelfennig, Leuffen, & Rittberger, 2015). On 15 February 2011, the European Parliament consented to proceeding with enhanced cooperation. The procedure was then formally authorized by the Council in March 2011. The unitary character of a Community patent is linked, first, to the idea of creating economic market unity through easy and equal access to patent protection.

European integration in terms of the patent system occurred in a way of graduating the intensity of integration. First EPC, which has an intergovernmental structure, was established and then unitary patent system was created based on enhanced cooperation between some of the Member States according to Art 118 TFEU²³ for the proper functioning of the internal market. The enhanced cooperation was established based

²³ Art 118 TFEU: In the context of the establishment and functioning of the internal market, the European Parliament and the Council, acting in accordance with the ordinary legislative procedure, shall establish measures for the creation of European intellectual property rights to provide uniform protection of intellectual property rights throughout the Union and for the setting up of centralised Union-wide authorisation, coordination and supervision arrangements.

The Council, acting in accordance with a special legislative procedure, shall by means of regulations establish language arrangements for the European intellectual property rights. The Council shall act unanimously after consulting the European Parliament.

on Art. 20 TEU²⁴ and Art. 326 TFEU²⁵. It is expected that the hesitant Member States are going to follow the unitary patent system in the future (Ullrich, 2013). The unitary patent system was about establishing a territorially unified, “supranational” patent protection (Ullrich, 2013). It can be said that successful integration of the Single Market lead to spillover effects to patent policy area (Leuffen, Rittberger, & Schimmelfennig, 2022). However, unitary patent does not replace the classical patent system and after June 2023 the three of the patent systems, i.e. unitary patents, national patents and European patents, will continue to be existing concomitantly (Yarsky, 2017). Unified Patent Court system demonstrates the desire for the uniform and competent application of law to the patents at issue (Yarsky, 2017). This debate could also be evaluated through European integration theories of neofunctionalism/supranationalism and (liberal) intergovernmentalism.

Patent system in the EU from neofunctionalist/supranationalist perspective:

The theory of neofunctionalism, developed by Ernst B. Haas and other scholars like Leon Lindberg and Phillippe Schmitter has been the leading theory on European

²⁴ Art. 20 TEU:

1. Member States which wish to establish enhanced cooperation between themselves within the framework of the Union's non-exclusive competences may make use of its institutions and exercise those competences by applying the relevant provisions of the Treaties, subject to the limits and in accordance with the detailed arrangements laid down in this Article and in Articles 326 to 334 of the Treaty on the Functioning of the European Union.

Enhanced cooperation shall aim to further the objectives of the Union, protect its interests and reinforce its integration process. Such cooperation shall be open at any time to all Member States, in accordance with Article 328 of the Treaty on the Functioning of the European Union.

2. The decision authorising enhanced cooperation shall be adopted by the Council as a last resort, when it has established that the objectives of such cooperation cannot be attained within a reasonable period by the Union as a whole, and provided that at least nine Member States participate in it. The Council shall act in accordance with the procedure laid down in Article 329 of the Treaty on the Functioning of the European Union.

3. All members of the Council may participate in its deliberations, but only members of the Council representing the Member States participating in enhanced cooperation shall take part in the vote. The voting rules are set out in Article 330 of the Treaty on the Functioning of the European Union.

4. Acts adopted in the framework of enhanced cooperation shall bind only participating Member States. They shall not be regarded as part of the *acquis* which has to be accepted by candidate States for accession to the Union.

²⁵ Art 326 TFEU: Any enhanced cooperation shall comply with the Treaties and Union law.

Such cooperation shall not undermine the internal market or economic, social and territorial cohesion. It shall not constitute a barrier to or discrimination in trade between Member States, nor shall it distort competition between them.

integration till the mid-1960s (Rosamond, 2005). In neofunctionalism, the role of non-governmental actors such as the Commission and the CJEU play very important role in supporting the process for the integration while the Member States arrange the conditions of the integration but their intervention remains limited about the course and the extent of the integration (Rosamond, 2005) (Schmitter, 2002). Therefore, the supranational authority is the key figure in the integration process (Rosamond, 2005). Spill-over is another feature of the neo-functional theory, which was the driving force and inherent logic of integration via increased functional interdependence, and according to Haas, integration in one sector leads to ‘technical’ pressures pushing states to integrate other sectors (Niemann & Schmitter, 2009).

Supranational theory, proposed by Sweet and Sandholtz (1997, p. 299), claims that supranational governance aids the interests of those “individuals, groups and firms transacting across borders and those who are advantaged by European rules and disadvantaged by national rules in specific policy domains”. According to Sweet and Sandholtz (1997, p. 301), supranational policy-making generates a dynamic process of institutionalization.

In terms of creating the European patent system, as the neo-functional theory foresees, the integration in the market, particularly creation of the Single Market, had a driving force for integration in the patent protection area in Europe as a ‘spill-over’ effect. However, although the efforts of uniting the national patent systems go back to 1950s, until the Unitary Patent Agreement in 2013, Member States could not reach to an agreement. The structure of EPC which is a cooperation outside of the EU framework was not found adequate.

The effects of non-governmental actors, the Commission and the CJEU, is very significant in creating the unitary patent and UPC. The Commission had a role of facilitator as a key figure in the integration; it authorised the request of the Council to resort to enhanced cooperation based on Art 20 TEU and it presented the proposal for the regulation (Smit, 2015). Spain and Italy brought challenges before the CJEU about

the enhanced cooperation procedure in creating the EU-wide unitary patent system²⁶, but the CJEU dismissed the claims (White & Case, 2013). In a similar vein, Spain brought another action before the CJEU against the regulations implementing enhanced cooperation in the area of the creation of unitary patent protection and the regulation governing the applicable translation agreements²⁷; the CJEU once again dismissed these actions (CJEU, Press Release No 49/15, 2015). As a result, the actions of the Commission and the CJEU influenced the process of integration.

The actions of the Commission and the CJEU overlap with the proposal of Sweet and Sandholtz (1997, p. 299), as through creating a unitary patent system, supranational governance served for the interests of individuals, groups and firms transacting across borders and those who are disadvantaged by separate national patent rules.

Unitary patent and UPC Agreements were obtained through enhanced cooperation and in neofunctionalism theory, differentiated integration, where enhanced cooperation is a type, is perceived as a second best option since uniform integration is preferred at the first place (Leuffen, Rittberger, & Schimmelfennig, 2013). From the neofunctionalist perspective in the long run, it is expected that the end goal of the patent system is going to be uniformity in the patent system throughout the EU.

Patent system in the EU from (liberal) intergovernmentalist perspective:

Intergovernmentalism emphasizes the role of the nation states in integration as being the leader actors, and argues that the nation states are not becoming obsolete due to European integration, in reverse, they become strengthened by the process (Milward, 1999). Intergovernmentalists argue that radical change in the EU occur when the interests of the Member States converge and they have shared goals; they emphasize the role of national governments and the bargaining between them in the integration process (Sonny, 2015). State sovereignty remains at the heart of intergovernmentalism

²⁶ C-274/11 and C-295/11

²⁷ C-146/13 and C-147/13

therefore resulting in integration on topics bounded to 'low politics' and the economic sector (Pollack, 2005).

Liberal intergovernmentalism developed by Moravcsik (1998), on the other hand, incorporates the liberal model of preference formation additional to the intergovernmentalism approach, where national governments have a strong idea of what their preferences are and pursue them in negotiating with other member states. Therefore nationalist interests and goals determine the course of integration. According to the intergovernmentalist theory, the significance of supranationalist institutions is limited in the integration processes. As a result, the aspects driving integration in intergovernmentalism can be grouped as compliance issues, interdependence and preference homogeneity, often combined with the costs of autonomy (Smit, 2015).

The idea of creating a Community patent has always been related to creating unity among Member States as part of the Single Market. In that sense, undertaking the leadership role of the Member states to create a European patent system has been the propelling power starting from the 1950s. In 1959, the Netherlands and Germany proposed a European patent system; in 1970s France proposed a patent system which ended up by the EPC. It is obvious that EPO is an intergovernmental organization since each Member State validates the patents granted by EPO based on their national laws and enforce the patent laws nationally.

From an intergovernmentalist point of view differentiated integration, where enhanced cooperation in the creation of unitary patent is a type, is an opportunity for Member States to possess distinctive rights and responsibilities with respect to various common policy areas of the EU (Moravcsik, 1998). During the unitary patent negotiations the Commission looked for a uniform agreement, but Italy and Spain resisted and put their nationalistic concerns forward; as a result enhanced cooperation came out as the only option (Ullrich, 2013). But then, Italy, after reconsidering its national industrialisation strategy –it is one of the largest patent holder in the EU-, decided to join the enhanced cooperation (Smit, 2015).

So, from liberal intergovernmentalist point of view, the states remained the leading actors in the integration process, in the European patent system. Nationalist interests, i.e. language, of the Member States determined the course of the integration as described in the liberal intergovernmentalism theory.

Unitary patent regulation concerns the internal market and the economy and aims to bring more harmonisation to the patent system among Member States. The initiators of the Community patent idea were the more industrialised Member States who export their products and investing a lot on R&D activities.

In terms of the role of non-governmental actors, it is regulated that Unified Patent Court, which is independent of the CJEU, is going to be established. The CJEU has only limited supervision on UPC. So, CJEU's dominance in the patent enforcement has been limited (Smit, 2015). This special patent court was established based on the demands of the Member States and the industry. As the intergovernmentalist theory assumes, the dominance of non-governmental organisations have been limited based on the Member State decisions.

In conclusion, both neofunctionalist and intergovernmentalist approaches provide some explanations for the European integration in terms of patents, although neofunctionalism stays more explanatory for the duration of adopting the unitary patent system.

Standardisation activities and European Integration:

As elaborated in section 2.1, technical standards are developed by SDOs and the EU standards are defined by three European SDOs, i.e. ETSI, CEN and CENELEC, with the involvement of the Commission. So, European integration in terms of standardisation activities can best be explained through the supranationalism theory of integration.

To conclude, European integration of the two components of SEPs, patents and standards, can be explained through neofunctionalist and intergovernmentalist theories as explained above, but a complete integration taking into account all aspects of SEPs issues has not been achieved yet in the EU. From a supranationalist point of view,

integration in patents and standardisation will ultimately have spill-over effects on SEPs and result in more integration in the SEP landscape throughout the EU.

3.2 Standard Essential Patents and Digital Single Market Strategy

The Council of the EU recognised the need for a balanced approach of SEPs, ensuring a fair return on investment for SEP holders as well as a fair access to SEPs for all players and especially SMEs, in its Draft Council conclusions on the "Digital Single Market Technologies and Public Services Modernisation" package, on 17 May 2016 (Council of the European Union, 2016). Then, in its April 2016 Communication on ICT Standardisation Priorities for the Digital Single Market (COM(2016) 176 final, 2016), the Commission sets out strategic and political approach to standardisation for ICT technologies that are critical to the completion of the DSM.

According to the DSM strategy of the EU, billions of connected devices will be communicating safely and seamlessly, regardless of their manufacturer, technical details or country of origin. This connection will be established through standards; in accordance with that without interoperability - which is enabled by standards -, 40% of the potential benefits of DSM systems cannot be reaped (COM(2017) 712 final, 2017).

The Commission proposes concrete measures to speed up the standard setting process by focusing on five priority areas, which are: 5G, cloud computing, IoT, data technologies and cybersecurity in order to fully functionalize the DSM (Vandystadt, Caudet, Frenay, Fougner, & Pietila, 2016). The importance of SEPs is obvious for all these priority areas.

The Commission stated that in order to accelerate the standard setting processes, mainly in the areas of communication networks or cybersecurity and public services, there will be co-financing aids for the testing and experimentation of technologies in relevant public-private partnerships. The objective is to ensure timely delivery of standards to encourage innovation and business growth (Vandystadt, Caudet, Frenay, Fougner, & Pietila, 2016).

Following the general political implications of the SEPs in the EU system and especially for the European Single Market above, in the following parts the relevant EU law and related legal tools will be elaborated.

SEPs and FRAND concepts are closely related to competition rules and compliance with competition rules is one of the fundamental requirements of the EU starting from the very early days of the Communities as early as the Treaty establishing the European Coal and Steel Community (ECSC)²⁸. A similarity between FRAND commitments and the Treaty establishing the ECSC was the rules about banning unfair and discriminatory practices. The treaty specifically dealt with the three cases which could distort competition in this sectoral agreement, and these are: agreements, concentrations and abuse of dominant position, which are the subjects of today's SEPs.

3.3 Standard Essential Patents in European Union Primary Law

Subjects related to fair and undistorted competition in the market (Articles 101 to 109 TFEU), innovation, standards and patents are defined in EU primary law, but the SEPs which are the intersection of all of these subjects are regulated through EU secondary law.

3.3.1. EU Competition Law

In the EU competition law, a system is aimed where competition is not deteriorated, economical conditions are convenient, investments and production could be done freely at anywhere on people's will, marketing and obtaining goods and services can be achieved anywhere in the EU flawlessly (Aşçıoğlu Öz, 2000, p. 51).

The direct relevance of SEPs in the EU Competition law is Chapter 1 of "Title VII: Common Rules on Competition, Taxation and Approximation of Laws" of the TFEU which is about rules on competition; Article 101 of this Chapter defines the acts of distortion of competition within the common market. According to Article 101 TFEU, the actions where the aim or result is limiting or controlling production, markets,

²⁸ Treaty establishing the European Coal and Steel Community entered into force on 23 July 1952 and expired on 23 July 2002 (https://europa.eu/ecsc/index_en.htm)

technical development, or investment or applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantaged place is anti-competitive. The assessment under Article 101 TFEU is done in a manner that, it is determined firstly if the agreement between undertakings which affects trade between Member States has an anti-competitive object or actual or potential restrictive effects on competition; and then secondly, if the agreement is found to be restrictive of competition within the meaning of Article 101(1), the pro-competitive and restrictive effects are evaluated. If the pro-competitive effects do not outweigh the restrictive effects on competition within the framework laid down by Article 101(3), Article 101(2) stipulates that the agreement shall be void.

Article 102 of the TFEU (ex Article 82 Treaty Establishing the European Economic Community-TEEC) prohibits abuse of dominant position in the market.

Ensuring a fair competition is one of the essential components of the EU and it is strictly referred in the main treaties starting from its foundation. Other critical components essential for the economic development, mentioned in the treaties are research and innovation for technological development; the importance of removal of legal and fiscal barriers in order to advance in technology is underlined. Establishing common standards for technological co-operation throughout the EU and the interconnectivity and interoperability of national networks is deemed necessary, according to these fundamental treaties. These concepts are all the bases of the SEPs and the logic behind the FRAND commitment requirement of the SEP system.

3.3.2. Research and Technology

Title VI of the Single European Act (SEA)²⁹ is devoted to ‘Research and Technological Development’ and in Article 130f of this part, it is stated that in order to strengthen the scientific and technological basis of European industry and to encourage it to become more competitive at international level, SMEs and research centers and universities should be encouraged in their research and technological

²⁹ Single European Act entered into force on 1 July 1987.

development activities. Co-operation through the definition of common standards and the removal of legal and fiscal barriers are emphasized. The implementation of common policies in competition and trade is also defined.

3.3.3. Trans-European Networks

In Article 129b in Title XII ‘Trans-European Networks’ of Treaty on European Union (TEU) (92/C 191/01) (Maastricht Treaty)³⁰ it is stated that the Community shall contribute to the establishment and development of Trans-European networks in the area of telecommunications and energy infrastructures and it shall aim at promoting the interconnection and interoperability of national networks. In Article 129c, it is continued that the Community shall implement any measures that may prove necessary to ensure the interoperability of the networks, in particular in the field of technical standardisation. Same statements take place in the Art. 171 TFEU.

3.3.4. Innovation

In Article 130 of Maastricht Treaty, ‘innovation’ is referred in order to ensure the conditions necessary for the competitiveness of the Community’s industry. ‘Open market economy’ and ‘free competition’ concepts are emphasized in the Treaty in various articles, such as, Art. 3, Art. 3a, Art. 92(3), Art. 102a.

3.3.5. Patent Protection

Related to patents, there has not been a uniform patent protection system across Europe, yet. Patent protection system is not regulated through an EU legislation. However, the Commission has been actively promoting the implementation of the European patent with unitary effect which will provide uniform protection across all participating countries and the establishment of a new patent court which will offer a single, specialized patent jurisdiction. The unitary patent system will enable patent protection in up to 25 contracting EU Member States. The unitary patent system is going to be adopted by 1 June 2023 (EPO - Unitary patent).

³⁰ Maastricht Treaty entered into force on 1 November 1993.

The patent granting institution in Europe is the European Patent Office (EPO)³¹, although EPO is not an institution of the EU, it closely cooperates with the EU in all patent related issues. In Europe, technical inventions can be protected both as national patents, granted by the national IP authorities in the member countries and as European patents granted centrally by the EPO. If the protection is required in only one or some of the Member States, the patent can be registered only in this/these state(s) through the national patent offices in these states. If a patent is going to get a European-wide protection, it needs to be registered through EPO; but a European patent needs to be validated by the national patent office in each country where protection is required (Your Europe, 2022).

The EPC is a special agreement within the meaning of the Paris Convention for the Protection of Industrial Property³². All EU member states are also contracting parties of Paris Convention and the EPC which contains provisions on the means of enforcing IPRs. EPC is a regional patent system that provides uniform patent protection in all member states that co-exists with national patent systems (Hall & Helmers, 2018). By the introduction of EPC, it was aimed to mitigate the differences between national patent systems and consequent national territorial barriers to the free flow of goods in the Single Market (Nicolai, 1971, p. 136). Another reason was to avoid the multiplicity of filing and other administrative procedures -such as examination in several different offices on the same invention- among disparate national systems so that providing less expensive and more effective patent granting system (Singleton, 1979, p. 121). Thus, the EPC contracting states have transferred the sovereign right to examine a patent application and to grant a patent with effect for their territory to the EPO; however

³¹ EPO is an intergovernmental organisation that was set up on 7 October 1977 on the basis of the European Patent Convention (EPC) signed in Munich in 1973. It is located in Munich with a branch in The Hague and sub-offices in Berlin and Vienna (EPO - Legal foundations). Other than 27 EU member states, Albania, Iceland, Lichtenstein, Monaco, North Macedonia, Norway, San Marino, Serbia, Switzerland, Türkiye and the United Kingdom are also members of EPO.

³² The Paris Convention, adopted in 1883, applies to industrial properties and the repression of unfair competition. This international agreement was the first major step taken to help creators ensure that their intellectual works were protected in other countries. The Paris Convention, concluded in 1883, was revised at Brussels in 1900, at Washington in 1911, at The Hague in 1925, at London in 1934, at Lisbon in 1958 and at Stockholm in 1967, and was amended in 1979.

they remain responsible for the enforcement of these patent rights (Luginbuehl, 2011, p. 1).

As detailed in section 2.6, a patent holder must initiate several parallel infringement actions, based on the same European patent and directed against the same alleged infringer, before the national courts in the states where the infringing acts have taken place (Luginbuehl, 2011, p. 2); that's the reason why SEP infringement cases are opened in several jurisdictions which is burdensome and costly for both parties and additionally, there might be different interpretations of the EPC according to their national law among EU member States. Although all of the Member States are contracting parties to the TRIPS Agreement³³ and the EPC, there are differences among Member States in terms of enforcement of IPRs, such as application of provisional measures, calculation of damages and application of injunctions (Official Journal of the European Union, 2004, p. 17); therefore it does not provide a unified/harmonised patent protection among contracting states (Şehirli, 1998, p. 36). These variations in the enforcement of patents hampers an equivalent level of protection throughout the EU.

The unitary patent system and the Unified Patent Court takes the harmonisation of EU Member States patent laws one step further and it will provide uniform patent protection across all participating countries offering a single, specialised patent jurisdiction (European Commission - The unitary patent system). The unitary patent system is expected to alleviate the complex patent litigation procedures in the EU.

The interpretation of Article 101 and Article 102 TFEU shapes a balanced approach between the patent rights (which are based on national legislation) and the EU competition law. In that regard, exercise of a patent law might be evaluated in terms of obtaining a dominant position in the market by owning a patent in some

³³ The EU and all Member States are members of WTO and contracting parties to the TRIPS Agreement, as part of multilateral negotiations of the Uruguay Round, by Council Decision 94/800/EC (Official Journal of the European Union, 2004, p. 16). EPC covers the relevant provisions of the TRIPS Agreement. The TRIPS Agreement contains, provisions on the means of enforcing IPRs, which are common standards applicable at international level and implemented in all Member States' international obligations (Official Journal of the European Union, 2004, p. 16).

circumstances (Anderman, 1998, p. 180); being a SEP owner is one of these circumstances. As a result, the FRAND concept (mentioned in part 2.2) has been proposed to mitigate the monopoly power of a SEP holder. The Commission decisions on SEP cases, which are examined in part 4.1, reveal that the Commission never support the idea of eliminating enforcement of patent rights in SEP cases, but this enforcement right should be limited through competition rules in order to ensure a level playing field in the EU market.

3.4 Standard Essential Patents in European Union Secondary Law

In the EU, the body of law that comes from the principles and objectives of the treaties is known as secondary law and it includes regulations, directives, decisions, recommendations and opinions (Article 288 of the TFEU).

Regulations: Regulations are legal acts that have general application. They apply automatically and uniformly to all EU countries without needing to be transposed into national law. They are binding in their entirety and directly applicable in all EU countries (Article 288 of the TFEU).

Directives: Directives are binding as to the results to be achieved. They leave the EU Member States free to choose the form and methods to achieve the results (European Commission - Types of EU Law).

Decisions: Decisions are binding in its entirety. A decision which specifies those to whom it is addressed is binding only on them (Article 288 of the TFEU).

Recommendations: Recommendations allow the EU institutions to make their views known and to suggest a line of action without imposing any legal obligation. They have no binding force (European Commission - Types of EU Law).

Opinions: Opinions allow the EU institutions to make a statement, without imposing any legal obligation on the subject of the opinion; it has no binding force (European Commission - Types of EU Law).

IPRs and standards are regulated through secondary law in the EU. The results obtained through different types of IPR enforcement in the Member States have been aimed to be harmonised through Directives in the EU.

Directive 2004/48/EC is on the enforcement of IPRs. In this directive, it is stated that the protection of intellectual property is an essential element and has paramount importance for the success of the internal market and it is added that the protection of IPRs is important not only for promoting innovation and creativity, but also for developing employment and improving competitiveness (Paragraph 1). The injunctive relief litigations are seen before Member States' national courts and the courts are bound by Article 3(2) of the IPR Enforcement Directive 2004/48/EC.

In Directive 2004/48/EC, the need for an effective enforcement of a substantive law on IPRs is emphasized and the essentiality of approximation of Member State level legislations for the proper functioning of the internal market is stated (Paragraph 9). Accordingly, the objective of Directive 2004/48/EC is referred as approximating legislative systems to ensure a high, equivalent and homogeneous level of protection in the internal market (Paragraph 10).

In paragraph 23 of the Directive, regarding the IPRs, which includes patents, the conditions and procedures relating to industrial property injunctions are left to the national law of the Member States; as for the directives in the EU, it is up to the individual countries to devise their own laws to reach the goals set out in the directives.

In Article 3, it is regulated that the measures, procedures and remedies to ensure the enforcement of IPRs should be effective, proportionate and dissuasive avoiding the creation of barriers to legitimate trade and providing for safeguards against the abuse of IPRs. In the Directive, the measures, procedures and remedies necessary to ensure the enforcement of IPRs are defined (Article 1).

On the other hand, European standardisation is regulated through Regulation (EU) No 1025/2012. The Regulation establishes rules about the cooperation between European standardisation organisations, national standardisation bodies, Member States and the Commission. The establishment of European standards and European standardisation

deliverables in support of EU legislation and policies, the identification of ICT technical specifications, stakeholder participation in European standardisation is also regulated (Article 1).

In paragraph 3 of the Regulation, it is stated that European standardisation helps to boost the competitiveness of enterprises by facilitating the free movement of goods and services, network interoperability, means of communication, technological development and innovation. Paragraph 34 of the Regulation states that, the Commission, where necessary, can request the European standardisation organisations to establish and publish a list of standards or specifications in the Official Journal of the EU to encourage their use, or to make their implementation compulsory; or to remove standards or specifications which do not meet consumers' needs anymore or hamper technological development.

Chapter II of the Regulation is titled "Transparency and Stakeholder Participation", the chapter mainly defines the interaction between European standardisation organisation and national standardisation bodies and also requires the standardisation bodies to make their works publicly available (Articles 3-4). Article 5, on the other hand, requires European standardisation organisations to encourage and facilitate an appropriate representation and effective participation of all relevant stakeholders in the standardisation activities. Article 6 states that standardisation bodies may provide SMEs access to standardisation activities without an obligation of being a membership and also may provide free access or special rates to participate in standardisation activities. Therefore, it can be said that the Regulation encourages and makes it easy the participation of SMEs in standard setting activities.

The only SEP related statement in Regulation (EU) No 1025/2012 is at the Annex II – Requirements for the Identification of ICT Technical Specifications, which is:

"intellectual property rights essential to the implementation of specifications are licensed to applicants on a (fair) reasonable and non-discriminatory basis ((F)RAND), which includes, at the discretion of the intellectual property right-holder, licensing essential intellectual property without compensation."

So, FRAND licensing of IPR related standards is mentioned in the Regulation as a requirement. This statement also takes place in the “General Guidelines for the Cooperation between CEN, CENELEC and ETSI and the European Commission and the European Free Trade Association” of 28 March 2003 (2003/C 91/04, 2003, p. C 91/11). These Guidelines were established based on the idea that standardisation play a role in public policy and support legislation, so that cooperation between European standardisation organisations and the EU is needed (2003/C 91/04, 2003, p. C 91/7).

Other than the above mentioned requirement statement of Regulation (EU) No 1025/2012 on European standardisation, the only legislative document that includes SEP related provisions is the “Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements” (2011/C 11/01). It should be noted that Article 101 of TFEU only applies to horizontal cooperation agreements that has effect on trade between Member States (European Commission, p. C 11/6). Chapter 7 of the Guideline is about “Standardisation Agreements” and in this chapter it is emphasized that standards increase competition and lower output and sales costs for the benefit of economies as a whole. Additionally, they facilitate in maintaining and enhancing quality, providing information and ensuring interoperability and compatibility, resulting in enhanced value for consumers.

On the other hand, standard-setting may also give rise to restrictive effects on competition by restricting price competition and limiting or controlling production, markets, innovation or technical developments (2011/C 11/01, p. C11/57). The three main channels of restricting competition are defined as: reduction in price competition, foreclosure of innovative technologies and exclusion of, or discrimination against certain companies by prevention of effective access to the standard.

In the context of standards involving IPRs –which refers to “patents”, particularly- the Guideline defines the different types of companies in the standard setting (Paragraph 267) and defines the anti-competitive results of standardisation comprised of IPRs (Paragraph 268). For instance, it is stated that there is a risk of an anti-competitive effect if a company is either completely prevented from obtaining access to the result

of the standard or is only granted access on prohibitive or discriminatory terms (Paragraph 268).

Related to SEP holder's dominance in the market, holding or exercising IPR essential to a standard does not entail having a market power (dominance in the market) and each case should be assessed based on its specific circumstances in order to determine the market power³⁴. If there is no market power, an agreement between parties is not capable of producing restrictive effects on competition (2011/C 11/01, p. C11/59). Additionally, access to the standard is another factor to determine if the agreement restricts competition; such as in the case of the availability of competing standards or an effective competition between standardised and non-standardised solutions, a restrictive effects on competition does not exist (2011/C 11/01, p. C11/61).

The participants wishing to have their patents included in the standard should be required to provide an irrevocable commitment to license their essential patent on FRAND terms to all third parties and this commitment should be given prior to the adoption of the standard³⁵. Furthermore, this commitment should be conveyed to the third parties, whom the patent holder transfers his rights. Additionally, Paragraph 288 states that it is not the responsibility of the SDO's duty to identify whether the licensing terms are FRAND or not, and the responsibility is solely on the parties of the agreement to set the level of the fees.

The Guideline offers the method of comparison between *ex ante* and *ex post* licensing fees of the related patents in order to identify whether the royalty rates are FRAND based or not (Paragraph 289). Another suggested method is obtaining an independent expert assessment to identify both the essentiality of the patent to the standard and also to determine if the licensing fees are FRAND. Evaluation of royalty rates charged for the same patent in comparable standards may provide an apprehension of FRAND rates (Paragraph 290). However, as explored in Chapter 2.2, the methods to define

³⁴ Paragraph 269 of the Guideline.

³⁵ Paragraph 285 of the Guideline.

FRAND rates are not limited with the ones described in this Guideline. The holders and licensees may adopt any of the developed methods in order to identify FRAND rates, as required. It should also be noted that if the patent holder discloses the most restrictive licensing terms during the standard setting processes and the standard is adopted based on this information, this does not lead to a restriction of competition within the meaning of Article 101(1) TFEU (2011/C 11/01, p. C11/63).

On 1 March 2022, the Commission published the draft version of the revised Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union (C(2022)1159 final, 2022) to horizontal co-operation agreements, for consultation. The Draft Guideline examines standardisation agreements and standard terms in separate chapters, while they are combined in the current Guidelines. The guidelines for standardisation agreements are mentioned Chapter 7 of the draft.

Regarding to the “good faith disclosure” of the IPR during the standard setting processes, the draft adds that the IPR disclosure should include at least the patent number or patent application number. If this information is not publicly available, it is also sufficient if the participant declares that it is likely to have IPR claims over a particular technology without identifying the specific IPR claims or applications for IPR, which is called “blanket disclosure” (Draft Guidelines Paragraph 483). So, the Draft Guidelines require from the probable SEP holders to disclose as much information as possible of their IPRs prior to the adoption of the standard.

IPR holder advantages due to the FRAND commitment is added in the Draft Guidelines, such that, FRAND commitments allow IPR holders to monetise their technologies via FRAND royalties and obtain a reasonable return on their investment in R&D. It is also stated that this can ensure continued incentives to contribute the best available technology to the standard (Draft Guidelines Paragraph 483). It seems like, a statement related to the advantages of FRAND for the IPR holders is needed and these items are included. In the current guideline, the IPR holders are accepted as the sole advantageous party in the competition, having the probability to abuse this position. The Draft Guidelines try to soften this language by also taking account the concerns of the IPR holders of the standard related technologies. In case of disputes

of royalty fees, it is declared that the economic value of the IPR could be based on the present value added of the covered IPR and should be irrespective of the market success of the products which is unrelated to the patented technology (Draft Guidelines Paragraph 486).

The enforcement of patents and the protection of monopolistic rights earned by holding a patent is regulated in the EU, also standardisation is regulated in the Union, but these regulations do not provide considerable regulations on SEPs. Therefore, it can be concluded that there is not a substantive law on SEPs in the EU, and it is obvious that there is a need for an EU wide regulation on SEPs in order to approximate Member State level applications and for the proper functioning of the internal market.

3.5 European Commission Actions on Standard Essential Patents

One of the earliest comprehensive EU documents focusing on SEPs is the Commission's March 2008 dated document 'Towards an increased contribution from standardization to innovation in Europe' (Commission of the European Communities, 2008). In this document standardisation is referred as the key instrument for improvement in order to foster innovation which is essential to economic, environmental and social advancements in the EU. It is emphasized that the Commission supports that standards should be open for access and implementation by everyone while establishing a balance between the interests of the standard implementers and IPR holders; additionally standards including IPRs can be used on FRAND conditions and the Commission encourages the European Standardisation Organisations to continue their efforts to make the FRAND policy effective. It is also added that European Standardisation Organisations should develop mechanisms to prevent abuses of standard-setting processes (COM(2008) 133 final, 2008, p. 10).

European Commission has given a significant importance to SEPs mostly after 2009. In the Commission White Paper of 3 July 2009 (COM(2009) 324 final), IPRs incorporated into an ICT standard is referred to and it is stated that establishing standards should not hinder free competition and also SDOs should implement clear and non-discriminatory policies with respect to IPRs. It is suggested for the SDOs to

consider the declaration of most restrictive licensing terms (i.e. maximum royalty rates) prior to the adoption of a standard.

Blind et al. (2011, p. 11), analysed IPR databases of international and European SDOs and consortia, conducted interviews with various international stakeholders and an international survey among standards producing and standards implementing companies; they also investigated the IPR policies of SDOs. They came with proposals to improve SEP policies for the Commission at the end of the study. This study was funded by the European Commission and it was prepared as a result of the Council Conclusions on the above mentioned Commission Communication COM(2008) 133, to launch a fact finding study to analyse the interplay of IPR and standards.

In 2014, a study prepared for the European Commission Directorate-General for Enterprise and Industry, named “Patents and Standards – A modern framework for IPR-based standardization” was published (Bekkers, et al., 2014). The objective of this study was aiding the Commission in its attempts to improve the European governance of SEP licensing arrangements. As part of the study, data on IPR-based standardisation was collected in order to identify barriers for efficient SEP licensing and provide solutions for these barriers. Four industries were taken as the main target: communication technology, consumer electronics, automotive and smart grids to generate quantitative information on the rate of SEP disclosure, types of disclosures, patent pools, ownership transfers and SEP litigation (Bekkers, et al., 2014, p. 9). According to this document, SEP licensing is deemed efficient if licences are concluded with minimum of search, negotiation and dispute resolution costs to both licensees and licensors and on terms that guarantee a fair return on the patent holder’s investment while enabling the implementer to use the standard at reasonable costs on a level playing field (Bekkers, et al., 2014, p. 12). The study proves by their analyses that growing number of SEPs, increasing number of licensors and licensees, lack of transparency, lack of clarity on FRAND terms royalty stacking, categorical discrimination, excess royalty rates or skewed cross-licensing agreements due to asymmetric information, high transaction costs, risk of patent ambushes, hold ups and increased risk of litigation are the problematic areas in SEPs (Bekkers, et al., 2014, p. 131).

Bekkers' study (2014, pp. 12-14) proposes several options to improve the current SEP system which can be listed as in the following:

- fine-tuning the patent declaration system to improve the patent transparency,
- promotion of patent pools to mitigate transaction costs, avoid royalty stacking and create a level playing field,
- providing efficient dispute resolution mechanisms, such as arbitration, mediation, and mini-trials,
- clarifying FRAND royalty rate and royalty base,
- binding subsequent SEP owners to the initial FRAND commitments,
- improving guidance to those who adopt standards on the inclusion of patented technologies to provide incentives for innovators to engage in R&D,
- reducing unnecessary costs associated with over-inclusion of technologies and complexity of standards.

In April 2016, the Commission published the Communication, 'ICT Standardisation Priorities for the Digital Single Market' (COM(2016) 176 final, 2016). According to this Communication, the Commission has identified five priority areas which were determined to be essential technology building blocks of the DSM. These are:

- i) 5G communications
- ii) cloud computing
- iii) IoT
- iv) (big) data technologies
- v) cybersecurity

In order to effectively adopt and advance in these priority areas, common standards were required to ensure the interoperability of the digital technologies. Standardisation in these areas was deemed to be the foundation of an effective DSM providing, smooth and reliable co-operation of technologies, economies-of-scale, advancement in R&D and well-functioning market. On the other hand, it is stated that complexity in the standardisation may result in confusions about the SEP holders and related costs of licensing terms, thus negatively affecting the access to the standards. It is also emphasized that stronger European leadership in standard setting in these

priority areas would increase the competitiveness and facilitate European innovations widely access to the global market (COM(2016) 176 final, 2016, s. 5); and success depends on a high-level commitment from a broad stakeholder base (industry, SDOs, research community and EU institutions) (COM(2016) 176 final, 2016, s. 12).

In the Commission Communication, 'Setting out the EU approach to Standard Essential Patents' (COM(2017) 712 final, 2017), it is highlighted that there is a need for a clear, balanced and reasonable policy for SEPs in the EU, pointing out the uncertainty in the current SEP regulatory environment. Regulations in the SEP area were identified as compulsory for contributing to the development of priority areas identified in the Commission's 2016 Communication of 'ICT Standardisation Priorities for the Digital Single Market' (COM(2016) 176 final, 2016) . As a complementary document of the Commission's COM(2016) 176 final document, in the COM(2017) 712 final document the Commission identified three main areas where SEP licensing environment could be improved:

- (1) Increasing transparency on SEP exposure
 - (a) Improving quality and accessibility of information recorded in SDO databases.
 - (b) Developing an information tool to assist licensing negotiations
 - (i) More up-to-date and precise declarations about the standard related patents.
 - (ii) Essentiality checks to prevent over-declarations and provide more reliability with SEPs.
 - (iii) Incentivising transparency such as by providing certificates for the SEP portfolios complying with the transparency criteria. Confirming SEP declarations after standard release and patent grants. The outcomes of any SEP related disputes should be included in SDOs databases.
 - (iv) Collaboration with patent offices for essentiality checks.
 - (v) An independent European body could be assigned for SEP essentiality assessment. The commission plans to launch a pilot

project in selected technologies for the introduction of an essentiality scrutiny mechanism.

(2) Unclear valuation of patented technologies reading on standards and the definition of FRAND

(3) The risk of uncertainty in enforcement of SEPs.

The Commission calls on the SDOs to provide accurate and up-to-date databases complying with the main quality features and points out that the Commission itself would work together with the SDOs in order to realize this process (COM(2017) 712 final, 2017, p. 5). An independent system of third-party essentiality checks is proposed to improve legal certainty and reduce litigation rates and costs (COM(2020) 760 final, 2020, p. 13).

A pilot study regarding the essentiality assessment of SEPs was conducted in 2020 (Bekkers, et al., 2020). In this pilot study, it was found out that the development of a system for essentiality assessment of SEPs is necessary and collaboration with all stakeholders and evaluating different business and licensing models of SEPs are the key factors for success while creating this assessment system. Bekkers et al. (2020) also recommends the Commission to create a supervising body, responsible for quality and performance, to design and define the SEP related procedures, to oversee the system and to harmonise the applications in different regions or countries.

The Commission defines general principles for FRAND licensing terms for SEPs in (COM(2017) 712 final, 2017). First of all, it is emphasized that these are the licensing parties who would arrive a common understanding of fair rates and licensing terms; the condition is that there should be good faith negotiations. The adverse effects of different views and litigations over FRAND licensing are defined as delaying the uptake of new technologies, standardisation processes and roll-out of IoT in Europe. Consequently, the Commission finds it necessary to establish a first set of key signposts on the FRAND concept for a more stable licensing environment to guide parties in their negotiations and reduce litigation (COM(2017) 712 final, 2017, p. 6).

Before the publication of (COM(2017) 712 final, 2017), the Commission had conducted a public consultation on patents and standards in 2015 in order to gather

information and views on the relation between standardisation and IPR (patents in particular) (European Commission - Public Consultation, 2015). Based on the results of this consultation, the Commission defined guiding elements on FRAND licensing in (COM(2017) 712 final, 2017). First of these guiding elements was good faith negotiation of both licensors and licensees to determine the FRAND terms (COM(2017) 712 final, 2017, p. 6). As explained in Section 2.5, the licensing strategies differ significantly among different industries therefore it is not possible to define one-size-fit-all solution for FRAND cases; accordingly the Commission encourages stakeholders to have sectoral discussions to establish common licensing practices (COM(2017) 712 final, 2017, p. 6). The Commission encourages to create patent pools or other licensing platforms within the scope of the EU competition law in order to simplify the licensing procedures of large number of implementers (mainly SMEs) (COM(2017) 712 final, 2017, p. 6). Additionally the Commission decided to set up an expert group to elaborate sectoral actions and FRAND related expertise of the different industries with the objective of facilitating its policy making practices about SEPs (COM(2017) 712 final, 2017, p. 8).

Another subject that the Commission focuses on is the enforcement environment for SEPs. The Commission points out that the uncertainties and imbalances in the enforcement system for SEPs causes problems in proper functioning of markets; furthermore SEPs show a higher degree of litigation than non-SEP patents (Bekkers, et al., 2014, p. 124); as a result there is a need for a clear dispute framework in this area (COM(2017) 712 final, 2017, p. 9). The Commission plans to collaborate with courts, arbitrators, mediators and other stakeholders to develop consistent policies for effective and efficient SEP dispute resolution (COM(2017) 712 final, 2017, p. 11). ADR mechanisms to solve SEP related disputes are supported by the Commission as mediums for swifter and less costly ways of resolution (COM(2017) 712 final, 2017, p. 11). In its Intellectual Property Action Plan to support EU's recovery and resilience (COM(2020) 760 final, 2020), the Commission states the need for a clearer and more predictable framework for SEPs and encourages good faith negotiations instead of litigations.

Another problematic area in SEPs is the transfer of ownership of the SEPs and whether the commitments made by the SEP holder should be transferred to the subsequent owner together with the patent rights. The Commission concludes that the Patent Assertion Entities (PAEs), who gets the SEP ownership from the first holder, should be bound by the same commitments of the original SEP holder (COM(2017) 712 final, 2017, p. 12). It can be said that with the Communication (COM(2017) 712 final, 2017), the Commission seeks to provide a non-binding and balanced policy document to guide the SEP issues.

In-Depth Analysis for the JURI committee, European Parliament's Policy Department for Citizen's Rights and Constitutional Affairs, assesses the Commission's Communication on SEPs (COM(2017) 712 final, 2017), which is mentioned above, focusing on the subjects; (i) increasing transparency on SEPs, (ii) determining valuation of SEPs and FRAND terms, and (iii) enforcement for the IoT (Mcdonagh & Bonadio, 2019). In line with the Communication (COM(2017) 712 final, 2017), the In-Depth Analysis proposes several applications to achieve the objectives in the Communication. These proposals include (Mcdonagh & Bonadio, 2019, s. 8): disclosure of the most restrictive licensing terms (such as maximum royalty rate), royalty-free licensing of undisclosed SEPs, auctions to be organised by the SDOs in order to choose the most convenient technology, inserting most-favoured licensee clauses in licensing agreements, adopting collective licensing or patent pools, and implementing open source platforms to facilitate transparency and the provision of information. However, some of these proposals, such as the disclosure of licensing terms *ex-ante* the setting of the standard or royalty-free licensing of undisclosed SEPs and most-favored licensee clause, are strict measures and may have adverse effects from the point of SEP holders; they may hold the R&D companies back from standardisation activities.

The Commission created a group of experts from the industry, academia, law and the judiciary on licensing and valuation of SEPs in July 2018 based on the Commission decisions of 2017 (COM(2017) 712 final, 2017) (European Commission - Register of Expert Groups, 2022). The mission of the group was defined as providing the Commission the necessary information about technical, legal and financial dimensions

of SEPs in order to facilitate developing policy measures on SEPs, in the context of digitalization, IoT, 5G, the valuation of intellectual property and the determination of FRAND licensing terms (SEPs Expert Group, 2021, p. 8). The tasks of the group were:

- (a) to create an environment of sharing experience and good practices in the field of licensing and valuation of SEPs;
- (b) to assist the Commission in the monitoring of SEP licensing markets and developing policy measures required for ensuring a balanced framework for smooth, efficient and effective licensing of SEPs;
- (c) to assist the Commission in obtaining information on licensing and valuation practices in accordance with the Communication (COM(2017) 712 final).

The expert group published its first report on January 2021 (SEPs Expert Group, 2021). In this report the group members analysed how SEP licensing is evolving; they identified key challenges, analysed current ways of dealing with them and made a number of proposals, called ‘structural reforms’ to be considered to achieve the suggested way forward. They mainly focused on IoT and SMEs. When it is considered that 99% of EU’s businesses are SMEs (Digitising European Industry, 2020), it is particularly critical for the EU to take ameliorating actions for this group for the economic development and also to realise the digitalisation targets of the Union.

First of all, the expert group emphasizes the flaws due the lack of transparency on SEPs, as mentioned in several sections in the above chapters, and suggests to introduce SEP databases with specific SEP declarations and advises the EU to incentivise the SDOs accordingly³⁶, creating EU platforms of information related to essentiality assessments of SEPs and outcomes of litigation proceedings on SEPs, in order to facilitate smoother SEP licensing negotiations and reduce number of SEP litigations (SEPs Expert Group, 2021, p. 11). EPO or other patent offices or alternatively supervised networks of certified law firms may be appointed by the EU, as the authorities to check the essentiality of the declared SEPs; also third parties should be able to easily challenge the validity of a confirmed SEP before a court or an arbitration

³⁶ For instance, by requiring the SEP declarations in EU public procurements related to standards.

panel and the SDOs databases need to be updated regularly according to the results of these challenges (SEPs Expert Group, 2021, p. 11).

Regarding to establishing FRAND terms and conditions the expert group suggests that if the SEP holder's compensation exceeds the incremental value that the patented technology adds to the licensed product, then it could be evaluated as not being fair and reasonable; on the other hand a licence offer should not fail to remunerate the SEP holder for the added value (the license should not reward hold out) (SEPs Expert Group, 2021, p. 12). Related to the non-discriminatory part of the FRAND obligation, the expert group states that non-disclosure obligations of the licence agreements make it difficult to determine whether the licensing conditions are discriminatory among licensees or not; therefore the group suggests that there should be a confidential repository of SEP licensing agreements, which is available to courts, competition boards, public arbitration boards and other authorities. The group also suggests, if applicable, the SEP holders should make their licence offers publicly available for all potential licensees (SEPs Expert Group, 2021, p. 14). The Commission's role in that sense might be developing a methodology to enable patent holders to evaluate their compliance with the non-discriminatory obligation, such as identifying key factors of non-discriminancy.

Patent pools are found as a solution to overcome the complex environment of huge number of SEPs and huge number of SEP holders particularly for IoT products in order to simplify the licensing actions and reduce transaction costs (SEPs Expert Group, 2021, p. 16). The role of the EU in these patent pools might be directing European SDOs for fostering the formation of patent pools and additionally a collective licensing agency might be established under public law in the EU. It should also be noted that patent pools have already been evaluated based on EU competition rules.

Finally in 2022, the Commission started a Consultation period about SEPs, aiming to obtain the views of SEP holders, SEP implementers, patent attorneys, legal practitioners, academics, patent-pool administrators, industry associations, start-ups, SMEs, SDOs, consultants, policy makers, and any other stakeholders that have experience with SEPs to develop a framework for SEP related issues; namely:

transparency, FRAND terms and conditions and enforcement (European Commission - Public consultation, 2022). In this Consultation, lack of transparency on FRAND royalty rate, on SEP landscape and divergent court rulings were defined as problematic areas by the respondents; in particular, the holders pointed out the hold-out and ASIs as the problems in SEPs.

3.6 Effects of Brexit on Standard Essential Patents

Brexit, which refers to the United Kingdom's (UK) leaving the EU at the end of January 2020, where the transition period ended on 31 December 2020 also had some IP rights related effects. Since the UK is a member of the European patent system and will remain to be a member, that is governed by the EPC treaty between contracting states to the EPC, it is expected that there will not be significant changes in the UK's patent system due to Brexit.

Nevertheless following Brexit, the UK has become an EPC contracting state who is not a member of the EU, like Türkiye. European patent attorneys based in the UK will continue to represent applicants before the EPO. Patent protection in the UK continues to be available via the EPO by validating granted European patents in the UK after grant (Intellectual Property Office of the UK, 2020).

On the other hand, the UK will not be taking part in the Unitary Patent System and Unified Patent Court once they are adopted. Additionally, the UK courts will not be making reference to the CJEU for the interpretation of IP legislation and other EU law such as competition (Intellectual Property Office of the UK, 2020).

The anti-trust provisions of Article 102 TFEU will no longer have direct effect in the UK after Brexit and therefore UK is not obliged to follow CJEU framework on SEPs (i.e. *Huawei v ZTE* framework). Although there is no consequence depending on Article 102 TFEU, SEP holders and potential licensees may prefer to abide by *Huawei v ZTE* framework of the CJEU, which will be discussed in the next chapter. Following the completion of Brexit, competition, infringement, FRAND, validity and essentiality issues of SEPs are evaluated not on the EU Law but based on the UK national law (Intellectual Property Office of the UK, 2022).

Regarding to the ASIs, the power of the EU Member States' courts to grant ASIs within the EU is constrained by Article 29(1) of Regulation (EU) No 1215/2012, as mentioned in 2.6.1. The UK is not bound by this regulation anymore as a consequence of the Brexit, so, the UK jurisdictions are more relaxed to apply ASIs for the SEP cases. Therefore, plaintiffs who are looking for ASIs in the EU Member States may prefer the UK courts rather than the EU Member States' courts.



CHAPTER 4

ENFORCEMENT AND CASE LAW REGARDING STANDARD ESSENTIAL PATENTS IN THE EUROPEAN UNION

Under the Article 3 TFEU, the EU has exclusive competence over competition rules necessary for the functioning of the internal market. Competition is one of the common policy areas of the EU and the Commission implements the EU common policies and ensures that the provisions of the EU's treaties are carried out properly.

The Commission directly enforces EU competition rules of Article 101-106 of the TFEU, and it monitors and investigates anti-competition practices to ensure a level playing field for all EU businesses so that all companies can compete equally and fairly in a well-functioning EU market. The Commission's power to enforce competition rules are detailed in Regulation 1/2003. Within the Commission, the Directorate-General for Competition (DGComp) is responsible for the enforcement of competition law related powers.

The Commission has the power to investigate and halt violations of EU competition rules; these investigations are subject to a number of internal checks and balances (EU Competition) (Wils, 2004). EU citizens and undertakings can inform the Commission about suspected anticompetitive practices (Lacarra, 2019). During the competition investigations the Hearing Officers act as independent arbiters between the Commission services and the companies concerned; however the Hearing Officers do not intervene in the course of an investigation (Forrester, 2009, p. 823).

The Commission may impose fines of up to ten per cent of the undertaking's worldwide aggregate group turnover for the preceding business year, as the result of finding out of a violation. If the Commission intends to take an infringement decision but the

parties amend the situation to remove the competition concerns and the Commission takes a formal commitment decision, then, there becomes no longer a ground for the Commission's action. The lawfulness of a European Commission decision can be reviewed only by the European General Court of the CJEU.

The CJEU is the main European judicial body ensuring uniform interpretation and application of the EU law. According to Article 19 TEU the CJEU give preliminary rulings, at the request of courts or tribunals of the Member States, on the interpretation of the EU law³⁷.

In order to ensure the uniform application of EU competition law, Article 16 of Regulation 1/2003 provides that when national courts rule on practices which have already been subject to a Commission decision, they cannot take decisions that would conflict with the decision adopted by the Commission. National courts remain free to decide lawsuits pending before them as long as EU law is respected.

The abuses of Article 102 TFEU can be categorized in two groups of “exclusionary abuses” and “exploitative abuses”. Exclusionary abuses are the ones that the dominant businesses use their power to try to keep competitors out of the market or makes the conditions difficult to compete. Exploitative abuses, on the other hand, are the ones that the dominant businesses use their power to impose unfair trading terms on its customers or suppliers. Exclusionary abuses are more commonly investigated by the Commission than exploitative abuses (Ashurst, 2021).

In this regard, competition related SEP issues comes within the remit of the Commission. A non-compliance of SEP related activities with the competition law may come to the attention of the Commission through: a complaint made by a third party (i.e. a competitor or a customer), transfer of a case to the Commission from national competition authorities, an investigation in another area which uncover suspicions of anti-competitive practices, or the Commission's own inquiries (Ashurst, 2021). It is critical for the Commission to define the circumstances in which the

³⁷ Article 19 TEU Paragraph 3, subparagraph (b)

licensing terms or the litigation strategy of a SEP holder gets to a position that breaches Art. 102 of TFEU. However, it is a difficult task due to the complex nature of the SEPs (Geradin, 2013). On the other hand, the Commission is of the opinion that national courts and arbitrators are better positioned to decide on FRAND terms; since FRAND terms are more related to exploitative abuses (the Commission is not in favour of investigating exploitative abuses) and also a part of FRAND issues is subject of IPRs which are protected through national laws. National courts and arbitrators may seek guidance from the Commission regarding the interpretation of EU law. So far, the Commission has not given an opinion to adjudicators as to what constitutes a FRAND royalty rate or, how these rates should be calculated. While it is reasonable to leave this task to a competent judicial body, providing more clarity on FRAND would enhance legal certainty and convergence of practice. The SEP cases investigated by the Commission are evaluated in Section 4.1.

4.1 The European Commission Cases of Standard Essential Patents

In the SEP cases, the Commission's policy is incentivising the development and inclusion of top technologies in standards, by preserving fair and adequate return for these contributions while ensuring smooth and wide dissemination of standardised technologies based on fair access conditions. Since the protection of patent related rights is regulated through national laws of the Member States, European Commission cases of SEPs are related to anti-competitive behaviours of the parties.

It can be said that in all Commission decisions, the highlighted point is that the competition rules should be followed in order to provide the consumers' welfare in the long run. If the competition rules are not followed during the SEP licensing negotiations, this affects licensing terms and ultimately the usage of the standardisation and the advancement in innovation. The Commission also adopts the approach that litigation of a "willing licensee" might be against competition rules, thus, injunction relief instrument should be the last remedy for the SEP holders.

Although there are many intersecting areas, the Commission cases on SEPs can be categorized in five groups, these are:

- Cases of patent pools: Digital Versatile Disc Standard Patent Licensing Group, 3G Patent Platform
- Case of transfer of FRAND commitments: ICom
- Case of patent ambush: Rambus Inc.
- Case of abuse of a dominant position: Qualcomm Inc., Samsung Enforcement of UMTS standards, Motorola Enforcement of GPRS SEPs, Motorola – Enforcement of ITU/ISO/IEC and IEEE SEPs
- Case of merger treaties: Google/Motorola Mobility Merger³⁸

4.1.1 Digital Versatile Disc Standard Patent Licensing Group³⁹

Digital Versatile Disc (DVD) technology was jointly developed by a consortium of ten companies, namely, Hitachi Ltd, JVC, Matsushita Electric Industrial Co Ltd, Mitsubishi Electric Corp, Time Warner Inc, Toshiba Corp., Philips, Sony, Pioneer and Thomson. Among these ten companies, Hitachi Ltd, JVC, Matsushita Electric Industrial Co Ltd, Mitsubishi Electric Corp, Time Warner Inc, Toshiba Corp. which hold some of the DVD technology SEPs, agreed to license their patents through a single non-exclusive and non-discriminatory “patent-pool” program which would be administered by Toshiba Corp. of Japan.

The companies that created the patent pool submitted their agreement to the Commission in 1999. After the investigation, the Commission concluded that the patent pool would help promote technical and economic progress by allowing interested manufacturers to obtain licence for the necessary patents quickly and efficiently for the DVD technology and added that the agreement did not contain unnecessary or excessive restrictions on competition. Reasoning of the Commission was that the patent pool would lower administration and transaction costs which would also benefit the consumers. The Commission found the patent pool beneficial for the consumers and approved the agreement, accordingly (IP/00/1135, 2000).

³⁸ The cases in this section are accessed through European Commission Competition Policy Case search database and the cases are listed in chronological order.

³⁹ Commission case no: AT.37506, Title: DVD patent licensing group, Decision date: 09/10/2000

4.1.2 3G Patent Platform +18⁴⁰

On July 2000, the 3G Patent Platform Partnership (3G3P) and its partners⁴¹ submitted a notification to the Commission stating that the group would implement the 3G3P on September 2000. The function of the 3G3P was defined as providing a cost effective mechanism for essentiality checking, certifying and reducing licensing fees for the essential patents for third generation (3G) mobile communication systems defined within the framework of standards set by the ITU. The 3G3P claimed that the notified agreements would have pro-competitive effects and would facilitate market entry and access to 3G technology by preventing the blocking of essential patents, through reducing costs, uncertainties and delays associated with the licensing of numerous essential patents for complex 3G technologies (Choumelova, 2003). So that, improved access would be provided which was essential for a rapid introduction of 3G mobile services in Europe.

The Commission invited third parties to submit their observations to the Commission about the 3G Patent Platform⁴². 3G3P has five separate 3G patent licensing arrangements for the five different 3G technologies. The system provided by the platform had some differences from being a patent pool; such as (i) being open to both licensors and licensees (whereas, patent pools are composed of only licensors), (ii) licensors were free to license outside the Platform and they did not assign patent rights to the 3G3P, (iii) the patents were not necessarily bundled, licensing was on bilateral basis, (iv) no single licence between a licensee and the 3G3P, (v) Platform's standard licence was not obligatory for the licensees and the parties might themselves define "fair and reasonable" terms (Choumelova, 2003). Although the Platform had the aforementioned differences from patent pools, the Commission reviewed the case

⁴⁰ Commission case no: AT.37920, Title: 3G Patent Platform +18, Decision date: 12/11/2002, "+18" stands for the 18 partners

⁴¹ Alcatel, Cegetel, Electronics and Telecommunications Research Institute Korea ("ETRI"), France Telecom, Fujitsu, Royal KPN N.V., LG Information and Communications, Matsushita, Mitsubishi Electric, NEC, NTT DoCoMo, Robert Bosch GmbH, Samsung Electronics, Siemens AG, SK Telecom, Sonera Corporation, Sony and Telecom Italia Mobile.

⁴² 09/08/2000 dated Official Journal of the European Communities.

based on the criteria for assessing the patent pools under competition rules, since most of the rules governing patent pools could be used as guidance.

On November 2002, the Commission's DGComp issued an antitrust clearance for the implementation of the 3G3P (IP/02/1651, 2002).

4.1.3 IPCom

IPCom investigation was about the transfer of FRAND commitments when the SEPs are acquired by a third party. In 2007, IPCom bought the mobile telephony patent portfolio developed by Robert Bosch GmbH (Bosch) including Global System for Mobile Communication (GSM) and Universal Mobile Telecommunication Service (UMTS) SEPs. As a member of the ETSI, Bosch had taken part in the GSM and UMTS standard setting processes and declared owning patents in the relevant standards, subsequently committed to ETSI "to grant irrevocable licenses on FRAND terms and conditions" for such patents (MEMO/09/549, 2009).

At first, IPCom reneged on the FRAND commitment made by Bosch; but then, under the pressure of the Commission, in 2009, IPCom declared to take over Bosch's FRAND commitments for the GSM and UMTS SEPs.

The Commission welcomed IPCom's declaration and expressed that it is important when SEPs are transferred from one owner to another, so should any relevant FRAND commitments; since the transfer of FRAND commitments after the sale of SEPs is important from a competition law perspective. This requirement is clearly stated in the Paragraph 285 of the horizontal cooperation Guidelines (2011/C 11/01, 2011).

4.1.4 Qualcomm Inc.

On August 2007, the Commission initiated an investigation against Qualcomm Inc., a US chipset manufacturer and holder of IP rights in the CDMA and WCDMA standards for mobile phones, based on the complaints lodged by six European, US and Japanese mobile phone and/or chipset manufacturers (namely, Broadcom, Ericsson, NEC, Nokia, Panasonic and Texas Instruments). The manufacturers alleged that Qualcomm

infringed its FRAND commitments by demanding unfair royalty rates, which may lead to an abuse of a dominant position and breach of the competition rules accordingly.

The complainants also alleged that charging non-FRAND royalties may result in higher prices for final consumers, slower development of the 3G and 4G standards. The investigation of the Commission focused on whether Qualcomm was dominant in the market and whether the licensing terms and royalties imposed by Qualcomm were FRAND compliant (MEMO/07/389, 2007).

The Commission investigated whether the royalties that Qualcomm had charged since its patented technology became a SEP were unreasonably high; but, although the Commission assessed a complex body of evidence on the case, it could not reach a formal conclusion. During the investigations, all of the complainants had withdrawn or indicated their intention to withdraw their complaints. As a result, the Commission decided not to invest further resources in this case and decided to close formal antitrust proceedings against Qualcomm Inc. (MEMO/09/516, 2009).

Regarding to that investigation Geradin (2013) comments that it would be a very difficult task for the Commission if it would be in a position of rate-setting for the royalties; also that kind of a decision would encourage the unhappy licensees to file a large number of complaints to the Commission.

4.1.5 Rambus Inc.

The Commission investigated Rambus Inc. based on the concerns that it may have infringed Art. 82 of the EC Treaty (Art. 102 TFEU now) by intentionally concealing its patents and patent applications relevant to the technology used in JEDEC's Dynamic Random Access Memory (DRAM) chips and then claiming abusive royalties for the use of these patents after the standard is adopted; the situation is called "patent ambush". Rambus was enforcing its SEPs against companies applying the JEDEC DRAM standard in Europe and these companies were exposed to litigation over the relevant SEPs (MEMO/07/330, 2007).

In 2007, the Commission sent Rambus a Statement of Objections, setting out its preliminary view that it may have infringed competition rules by abusing a dominant

position in the market, as without the patent ambush, Rambus would not have been able to charge the royalty rates it was doing. Rambus Inc. was the first case that the Commission was dealing with a patent ambush (IP/09/1897, 2009).

As a result of the Commission investigation, Rambus committed to put a worldwide limit on its royalty rates for products compliant with the JEDEC standards for five years. As part of the royalty limit, Rambus declared not to charge any fees for the SDR and DDR chip standards which were adopted when Rambus was a JEDEC member, and to charge a maximum royalty rate of 1.5% for the later generations of JEDEC DRAM standards (DDR2 and DDR3) for five years. Rambus also added that the sale of the patents to a third party would not affect the commitments (IP/09/1897, 2009). Based on the Rambus commitments, the Commission concluded that these commitments were adequate to meet the Commission's competition concerns. This decision, which does not come to a finding on an infringement, legally binds Rambus to the commitments it offered and ends the Commission's investigation. If Rambus were to break its commitments, the Commission could impose a fine of up to 10 percent of its annual turnover, without having to find an infringement of the antitrust rules.

4.1.6 Samsung –Enforcement of UMTS Standard Essential Patents⁴³

In 2012, the Commission opened an investigation to assess whether Samsung Electronics has breached Article 102 TFEU by using some of its SEPs to distort competition in European mobile device market, in contravention of the commitment it gave to the ETSI that it would license its UMTS SEPs on FRAND terms, by seeking injunctive relief against Apple before the courts of certain EU Member States in relation to these SEPs (IP/12/1448, 2012).

The Commission initiated the investigation in its own initiative and its preliminary view on the case was that a commitment to license SEPs on FRAND terms was given by Samsung and moreover, the potential licensee, Apple, was willing to negotiate a

⁴³ Commission case no: AT.39939, Title: Samsung - Enforcement of UMTS standard essential patents, Decision date: 29/04/2014

FRAND licence for the SEPs, then recourse to injunctions would harm the competition (IP/12/1448, 2012).

The injunctions generally involve a prohibition of the patent infringing product from being sold; therefore the threat of excluding Apple products from the market may distort licensing negotiations unduly in Samsung's favour and can cause harm to consumers by increasing prices, reducing product choice and stifling differentiating in the market.

During the Commission's investigation, to remedy the concerns, Samsung declared its commitments about the case. Samsung offered to abstain from seeking injunctions in the European Economic Area (EEA), for any of its mobile SEPs (present and future), related to technologies implemented in smartphones and tablets, for a period of five years against any company that agrees to a particular licensing framework. This licensing framework consisted of: (i) a negotiation period of up to 12 months and (ii) if no agreement is reached, a third party determination of FRAND terms by either a court or an arbitrator, as agreed by the parties. If the parties cannot agree on either submitting to court or arbitration, the parties will have to submit to arbitration (IP/14/490, 2014).

The commitments would provide for a "safe harbour" available to all willing licensees of the relevant Samsung SEPs that would like to avoid the risk of being subject of an injunction. An independent trustee would advise the Commission in evaluating the proper implementation of Samsung's commitments (IP/14/490, 2014).

The Commission collected comments on Samsung's commitments from interested third parties (IP/13/971, 2013), and accordingly, it concluded that it accepted Samsung's legally binding commitments on SEP injunctions under EU antitrust rules. The Commission stated that it also recognises other dispute resolution mechanisms than the specific ones to which Samsung commits may also be relied upon to settle FRAND disputes (IP/14/490, 2014).

Related to this case Commission Vice President in charge of competition policy Joaquín Almunia said that (IP/12/1448, 2012):

"Intellectual property rights are an important cornerstone of the single market. However, such rights should not be misused when they are essential to implement industry standards, which bring huge benefits to businesses and consumers alike. When companies have contributed their patents to an industry standard and have made a commitment to license the patents in return for fair remuneration, then the use of injunctions against willing licensees can be anti-competitive."

The Commission's approach in the Samsung case clarifies its view that when a SEP holder has FRAND commitment to license its SEPs and the licensee is willing to take a license on FRAND terms, it is anti-competitive to use injunctions. The decision oversees a fair balance between the interests of SEP holder to be appropriately remunerated for its SEPs and the interests of implementers to get access to the standardised technology on FRAND terms. The Commission's view is never about eliminating the use of injunctions by SEP holders, which is against the gist of IPR protection. On the other hand, the Commission supports the view that potential licensees have the right to challenge the validity, essentiality or infringement of SEPs to prevent unnecessary charges on implementers and consumers. This view of the Commission differs from the Orange Book ruling of German Federal Court of Justice in Section 2.4 by relieving the licensee's obligation in the ruling.

The decision does not give a clue about how to define the "willingness" of licensees outside the defined "safe harbour" criteria. In this decision, the Commission reiterated its view that the courts and arbitrators are the places to set FRAND rates but not the Commission itself.

4.1.7 Motorola –Enforcement of GPRS Standard Essential Patents⁴⁴

On 14 February 2012, Apple Inc. submitted a complaint to the Commission against Motorola with respect to Motorola's enforcement in Germany of a patent declared essential to the ETSI General Packet Radio Service (GPRS) standard, which it has

⁴⁴ Commission case no: AT.39985, Title: Motorola - Enforcement of GPRS standard essential patents, Decision date: 29/04/2014

committed to license on FRAND terms and conditions. Accordingly, on 2 April 2012, the Commission initiated proceedings against Motorola (Motorola — Enforcement of GPRS standard essential patents, 2014).

In May 2013, the Commission notified a Statement of Objections to Motorola, stating its preliminary view that Motorola's seeking and enforcing of an injunction against Apple in Germany on the basis of its GPRS SEPs, albeit Apple had declared its willingness to be bound by a licensing with FRAND royalties defined by the German court, amounts to an abuse of a dominant position prohibited by EU antitrust rules (IP/13/406, 2013).

During the course of the injunction proceedings, Apple had made six successive licensing offers to Motorola, which it had also submitted to the German courts. In its second licensing offer, Apple proposed to enter into a licence agreement of which conditions would be set by Motorola according to FRAND terms. Apple's offer also allowed for a full judicial review of the amount of FRAND royalties, whereby Motorola and Apple could submit their own evaluations, calculations and reasoning for consideration to the court. Motorola, however, rejected that offer and continued the injunction proceedings. In December 2011, the lower German courts granted Motorola an injunction against Apple. In January 2012, when Motorola decided to enforce the injunction, Apple made its sixth licensing offer. In this offer, Apple (i) accepted a clause whereby Motorola would be entitled to terminate the agreement in case Apple challenged the validity of any of the licensed SEPs (termination clause); and (ii) explicitly acknowledged the infringement of the licensed SEPs by all of its devices, including an Apple device that it claimed was not infringing those SEPs (Motorola — Enforcement of GPRS standard essential patents, 2014).

Finally, the Commission concluded that Motorola was dominant on the market and it was in an abusive conduct by seeking and enforcing an injunction against Apple on the basis of a SEP, which it had committed to license on FRAND terms and where Apple had agreed to take a license on FRAND royalties framed by the relevant German court; therefore Motorola infringed Article 102 TFEU. The Commission also found it anti-competitive that Motorola prohibited Apple from challenging the validity,

essentiality or infringement of Motorola's SEPs, under the threat of the enforcement of an injunction; and challenging the validity, essentiality or infringement does not make an implementer "unwilling" to license⁴⁵. In conclusion, the Commission ordered Motorola to eliminate the negative effects resulting from its acts and the Commission decided not to impose a fine on Motorola in view of the fact that there is no case-law by the EU Courts dealing with the legality under Article 102 TFEU of SEP based injunctions and that national courts have so far reached diverging conclusions on this question (IP/14/489, 2014).

In this decision, the Commission made clearer the conditions where seeking and enforcing an injunction would not be deemed to be abuse of a dominant position (Motorola — Enforcement of GPRS standard essential patents, 2014). These conditions are:

- (a) the potential licensee is in financial distress and unable to pay its debts;
- (b) the potential licensee's assets are located in jurisdictions that do not provide for adequate means of enforcement of damages;
- (c) the potential licensee is unwilling to enter into a licence agreement on FRAND terms and conditions, with the result that the SEP holder will not be appropriately remunerated for the use of its SEPs.

According to the Commission, if the potential licensee accepts a third party's determination for the terms of a FRAND licence in the event that the licensing negotiations do not come to a fruitful conclusion, it is a clear indication that a potential licensee is willing to enter into a FRAND license.

4.1.8 Motorola – Enforcement of ITU/ISO/IEC and IEEE Standard Essential Patents⁴⁶

In 2012, Microsoft lodged a complaint with the Commission against Motorola and its owner (had just become by that time) Google, alleging that Motorola was aggressively

⁴⁵ The Commission takes no position on the validity or infringement of the patents in question which is to be determined by national courts.

⁴⁶ Commission case no: AT.39986, Title: Motorola - Enforcement of ITU/ISO/IEC and IEEE standard essential patents, Decision date: 03/04/2012

enforcing its SEPs against rivals and that leads to breach Art. 102 TFEU. Microsoft complained that Motorola was charging too much for use of its SEPs and it was threatening Microsoft by blocking sales of Windows PCs, Xbox game console and other products in the market through lawsuits in Europe (see part 2.6).

Microsoft stated that Motorola asked for a royalty of \$22.50 for a \$1000 worth laptop computer to use its 50 SEPs needed for the H.264 video technology standard. Microsoft claimed that this royalty was not fair and reasonable when compared with a 2 cent royalty charged for more than 2300 SEPs of a group of 29 companies needed for the same standard (Chee & Carew, 2012). An official from Microsoft complained about Motorola's SEP pricing by stating that, "if every firm priced its SEPs like Motorola, the cost of the patents would be greater than all the other costs combined in making PCs, tablets, smartphones and other prices and obviously this would greatly increase the prices of these devices for consumers" (Steinhauser, 2012).

On April 2012, the Commission initiated antitrust proceedings against Motorola, investigating whether Motorola failed to honour commitments it gave to the ITU, ISO/IEC, IEEE that it would license its SEPs on FRAND terms and also infringed the competition rules by seeking injunctions in national courts related to its ITU, ISO/IEC, IEEE SEPs. The Commission has not published its decision related to this case. It should also be added here that the Commission started to investigate on this case right after it approved the acquisition of Motorola by Google⁴⁷ in February 2012, mentioned in the below section 4.1.9.

4.1.9 Google/Motorola Mobility Merger

On February 2012, the Commission cleared, under the EU Merger Regulation, the proposed acquisition of Motorola by Google as the Commission came into the conclusion that the transaction would not significantly raise competition issues in the market, in respect of operating systems and patents of mobile devices (IP/12/129, 2012).

⁴⁷ Case no: Comp/M.6381-Google/Motorola mobility, 13/02/2012

SEP related issues (i.e. FRAND commitment, royalty rate, cross-licensing, injunctive relief) cover a considerable part of the Commission's decision about this merger since Motorola owned a significant portfolio of cellular SEPs at the time of the merger. In the agreement Google states that it would honour Motorola's pre-existing FRAND commitments on SEPs and would apply the maximum royalty rate that Motorola had declared (Comp/M.6381, 2012). In addition to the FRAND commitment and the maximum royalty rate Google described the following Motorola's pre-existing commitments on SEPs as legally binding and irrevocable (Comp/M.6381, 2012, p. 3):

- Google will negotiate in good faith with potential licenses for a reasonable period provided that, during that period, neither party shall (i) initiate legal proceedings against the other party's SEPs, and (ii) seek injunctive relief based on its SEPs;
- A potential licensee has the opportunity to prevent an injunction from being sought, even after negotiations fail, if a potential licensee (i) makes an offer to license Motorola's SEPs, subject to certain conditions, and (ii) provides securities with regard to the royalty payments.

Related to cross-licensing of SEPs, the Commission states that cross-licences, in general, are not anti-competitive and widely applied in the mobile telecommunications industry. Therefore, it concludes that Google may have incentives to engage in cross-licensing agreements based on Motorola's SEPs (Comp/M.6381, 2012, p. 26). However, it is added that Google cannot forcibly extract cross-licenses due to FRAND commitment as it cannot refuse to offer a cash-only option, otherwise it may be in breach of Art. 102 TFEU (Comp/M.6381, 2012, p. 31).

Google's commitment of not initiating legal proceedings for a reasonable period of time is similar to Samsung's commitments in the Samsung's Commission case AT.39939; however Google does not define the "reasonable" period of time while Samsung defines it as 12 months period. Therefore, "reasonable time limit" remains as a vague item in Google's commitments. Google's other declaration related to the

conditions for not initiating an injunctive relief trial for the potential licensees reminds the Orange Book Standard rules of German Federal Court of Justice⁴⁸.

4.2 Decisions of the European Court of Justice on Standard Essential Patents

According to Article 267 TFEU, the CJEU have jurisdiction to give preliminary rulings concerning the interpretation of the Treaties where such a question is raised before any court or tribunal of a Member State. If the court or tribunal considers that the CJEU's decision on the question is necessary to give a judgment, it requests the Court to give a ruling thereon.

Preliminary ruling of the CJEU procedure is processed when, a question of interpretation that is new and of general interest for the uniform application of the EU law is raised in a case before a national court, or where the existing case-law does not appear to give the necessary guidance to deal with a new legal situation. The national court or tribunal before which a dispute is brought is responsible for determining the need for a request for a preliminary ruling. The CJEU does not itself apply EU law to a dispute brought by a referring court but helps to resolve it. It is the national court that draws conclusions based on the CJEU ruling and the national proceedings should be suspended until the CJEU gives its ruling (EUR-Lex - Summaries of EU Legislation, 2022). Preliminary rulings are binding both on the referring court and on all courts in Member States.

There are two preliminary ruling applications for SEP cases; one is *Huawei v ZTE* and the other is *Nokia v Daimler*. CJEU only gave preliminary ruling on the *Huawei v ZTE* case since *Nokia v Daimler* case was resolved before the ruling of the CJEU, therefore the case was dismissed.

Huawei v ZTE has been a seminal ruling on SEPs defining the obligations where injunctive relief of the SEP holder is not counted as an abuse of a dominant position

⁴⁸ Federal Supreme Court (Bundesgerichtshof) 6 May 2009 – Case No KZR 39/06 OrangeBook-Standard.

according to Art. 102 TFEU. The Commission's approach in the Samsung case mentioned in Section 4.1.6 was criticised for some points like for being vague. *Huawei v ZTE* decision of the CJEU improves the Samsung ruling in the way to clarify the stages that the parties of a SEP dispute should follow. The CJEU's decision keeps a balance between the rules of Article 102 TFEU and the exclusive rights of the IPR holder and serves as a guiding rule by the national courts of the Member States and the competition authorities.

CJEU interprets the EU law within the scope of EU purposes; therefore, about SEP cases, CJEU mostly refers to the EU competition law and does not comment on the IP side since IP protection is regulated through each Member State's national law. In *Huawei v ZTE* case, CJEU provided fundamental guidance for the licensing and enforcement of SEPs.

Nokia v Daimler case was about defining the SEP licensors in the value chain. The case was dismissed since the parties came to an agreement during the procedures. However, where to seek a licence in the supply chain for the SEPs still remains a contentious issue in the EU.

4.2.1 Huawei v ZTE

The Chinese companies Huawei and ZTE are powerful players in the telecommunications sector. Huawei declared a number of its patents to be essential to ETSI's 4G/LTE standard and made a commitment to license them on FRAND terms. On the other hand, ZTE markets products based on the 4G/LTE standard and the parties engaged in licensing negotiations but could not reach an agreement. In particular, ZTE proposed cross-licensing agreement instead of royalty payments but Huawei turned this down. Negotiations failed but Huawei alleged that ZTE continued to use Huawei's SEPs without paying royalties (Petit, 2015) (Judgment of 16.7.2015 - Case C-170/13, 2015).

Thus, Huawei brought an action for infringement against ZTE before Düsseldorf Regional Court, seeking an injunction prohibiting the infringement, the rendering of accounts, the recall of products and an award of damages. Düsseldorf Regional Court

decided to refer a number of questions to the CJEU. The court asked whether and under which circumstances a SEP holder who has made a FRAND commitment violates Article 102 TFEU by bringing an action for injunction against a standard user (Judgment of 16.7.2015 - Case C-170/13, 2015). The Düsseldorf Regional Court also requested a preliminary ruling from the CJEU regarding the availability of remedies, particularly injunctions, to SEP owners who had made FRAND commitments, upon succeeding in patent infringement actions.

In its Huawei judgment, the CJEU established obligations applying to both sides of a SEP licensing agreement, when assessing whether the holder of a SEP can seek an injunction against a potential licensee without being in breach of Article 102 TFEU. According to the judgment, SEP holders may not seek injunctions against users willing to enter into a licence on FRAND terms, in a parallel approach with the Commission. Additionally, the CJEU defined the general criteria to assess a potential licensee whether it can be considered willing to enter into such a licence or not.

In its 16 July 2015 dated decision (Judgment of 16.7.2015 - Case C-170/13, 2015), the CJEU held that Article 102 TFEU must be interpreted as meaning that the proprietor of a SEP, which has given an irrevocable undertaking to a standardisation body to grant a licence to third parties on FRAND terms, does not abuse its dominant position, by bringing an action for infringement seeking an injunction prohibiting the infringement of its patent or seeking the recall of products for the manufacture of which that patent has been used, as long as:

- prior to bringing that action, the proprietor has, first, alerted the alleged infringer of the infringement complained about by designating that patent and specifying the way in which it has been infringed, and secondly, after the alleged infringer has expressed its willingness to conclude a licensing agreement on FRAND terms, presented to that infringer a specific, written offer for a licence on such terms, specifying, in particular, the royalty and the way in which it is to be calculated, and
- where the alleged infringer continues to use the patent in question, the alleged infringer has not diligently responded to that offer, in accordance with

recognised commercial practices in the field and in good faith, this being a matter which must be established on the basis of objective factors and which implies, in particular, that there are no delaying tactics.

According to the CJEU decision, in order not to be regarded as abusive for an action of seeking injunction prohibiting the infringement of its patent, the owner of a SEP must comply with conditions which seek to ensure a fair balance between the interests of the parties. The SEP owner who considers that SEP is the subject of an infringement cannot bring an action for a prohibitory injunction or for the recall of products against the alleged infringer without alerting the alleged infringer of the infringement complained about by designating the SEP and specifying the way in which it has been infringed, even if the SEP has already been used by the alleged infringer.

In case of large number of SEPs composing a standard, such as in the *Huawei v ZTE* case, the infringer of one of these SEPs might not be aware that it is using the teaching of a SEP that is both valid and essential to a standard. When the alleged infringer expresses its willingness to conclude a licensing agreement on FRAND terms, the SEP owner should present a specific, written offer for a licence on FRAND terms.

The alleged infringer should diligently respond to that offer in good faith without any delaying tactics. Should the alleged infringer not accept the licensing offer, it should submit to the SEP owner, promptly and in writing, a specific counter-offer that corresponds to FRAND terms. If the SEP owner rejects that counter-offer, the infringer must render an account of the acts of use of the SEP from the point at which it was rejected and provide security for the payment of the royalties, which also applies to past acts of use.

Where the parties cannot reach an agreement on the details of the FRAND terms following the counter-offer by the alleged infringer, the parties may, by common agreement, request that the amount of the royalty be determined by an independent third party. Finally, since an SDO does not execute validity or essentiality checks of the SEPs, an alleged infringer cannot be criticised either for challenging the validity/essentiality of the patents, or for reserving this right to do so in the future (Judgment of 16.7.2015 - Case C-170/13, 2015).

The CJEU did not specify the notions of “willingness”, “good faith”, “diligent response” or “FRAND royalties”; so, the CJEU leaves a wide margin of interpretation for national courts to fill. Some commentators criticise the CJEU’s *Huawei v ZTE* decision for lacking clear guidelines and say that the decision would not help much to relieve the burden of SEP related lawsuits (McDonagh & Bonadio, 2019, p. 26).

In terms of the time duration for the counter-offer of the potential licensee, it is difficult to establish a general benchmark, since there have been many variables in licensing agreements. These variables might include the number of asserted SEPs, the relationship between the licensor and the potential licensee, the complexity of the technology and the details contained in the infringement claim.

The reason for CJEU’s not being more specific about the FRAND terms might be stemmed from the fact that royalty issue is more related to patent licensing subjects rather than competition rules; and IPRs are protected through national laws. Therefore, for the *Huawei v ZTE* case CJEU was not in a position to give more precise views or guidance on more technical questions.

4.2.2 Nokia v Daimler

In the advent of 5G and the IoT, the car industry, among many other industries, has been increasingly implementing mobile communication technologies. This pursuit for connectivity of automated and digitalised cars naturally calls for interoperable technical solutions based on standards. It is a question that at which stage of the value chain a SEP owner should seek a licence from.

The dispute between Nokia and Daimler arose because Nokia alleged that the connectivity modules in the Daimler vehicles infringed their SEP portfolio. Nokia offered allegedly FRAND licences to Daimler, but Daimler argued that its suppliers should be the ones to take a licence and also the suppliers had indicated their willingness to do so (Schönig & Grohmann, 2020).

Nokia claimed that only dealing with OEMs like Daimler was more effective. On the other side, OEMs argue that, because suppliers implement the SEP first, suppliers should be the ones to receive a licence. In accordance with that, Nokia brought several

proceedings against Daimler before German courts in Munich, Mannheim, and Düsseldorf. In turn, Daimler and four of its suppliers launched antitrust complaints against Nokia before the Commission, claiming that Nokia abused its dominant market position by not granting SEP licence to the suppliers. One of the suppliers, Huawei, followed the suit and brought an action before the Düsseldorf Regional Court, seeking to obligate Nokia to grant a license (Chee, 2020).

Mannheim Regional Court⁴⁹ held that Daimler did not engage in negotiations with Nokia, instead Daimler insisted that its suppliers take a licence; therefore Daimler did not act as a “willing” licensee, so the court concluded that Daimler cannot rely on FRAND defence to avoid injunctions. Furthermore, the missing willingness of Daimler was also confirmed by its insistence on applying the average selling price of Telematic Control Units (TCUs) purchased by Daimler by its suppliers as base for the calculation of the licensing fees for Nokia's SEP portfolio. The Court found that the use of TCUs as the 'reference value' for the calculation of the royalty fees for Nokia's SEP portfolio was not appropriate. Accordingly, the Court rejected the notion of using the so-called 'Smallest Saleable Patent Practising Unit', that is the smallest technical unit integrated in a product, as base for the calculation of FRAND royalty rates (4iP Council, 2020).

On the other side, Düsseldorf Regional Court decided to refer questions to the CJEU. In its referral to the CJEU, the Düsseldorf court primarily seeks to determine whether SEP owners are obliged to license their SEPs to suppliers on a priority basis before seeking any licensing agreement from the OEM. The questions posed by the Düsseldorf court also raise general issues in relation to the obligations set out in the CJEU's earlier decision in the case of *Huawei v ZTE*. Düsseldorf court also asked to clarify the obligations of the SEP holder and technology implementer in SEP licensing negotiations and when a licence holder from a SEP holder is considered to be FRAND compliant (Pinsent Masons, 2020).

⁴⁹ Case ID 2 O 34/19

The CJEU had been due to consider this issue in the context of a dispute between Nokia and Daimler until the companies reached a settlement agreement. Daimler had argued that its suppliers should be the ones to take a licence from Nokia, but Nokia had pursued a FRAND licence with Daimler. On 1 June 2021, Nokia and Daimler announced that they came to an agreement on Nokia's SEP portfolio; such that Nokia would license its mobile telecommunications technology to Daimler (not its suppliers).

All pending litigations between the two parties, including the antitrust complaint by Daimler against Nokia filed with the European Commission, were dismissed. This included the patent infringement case brought by Nokia against Daimler before the Düsseldorf Regional Court which gave rise to the request for a preliminary ruling request to the CJEU (Heenan & Delvaux, 2021) (Chee, 2021). Accordingly, the CJEU removed the case from the register and did not publish its opinion.

However, where to seek a SEP licence in the supply chain remains a contentious issue in Europe.

CHAPTER 5

STANDARD ESSENTIAL PATENTS IN TÜRKİYE

SEPs are quite newly explored area in Türkiye. Although there are studies in Turkish about SEPs such as (Aslan, 2016), (Yeşil, 2017), (Ergün, 2019), (Tosun, 2019) and actions of some government institutions such as Turkish Standards Institution (TSE), Turkish Patent and Trademark Office (Turkpatent), Turkish Competition Authority and Turkish Information and Communication Technologies Authority (BTK), it is difficult to say that there are settled policies related to SEPs in Türkiye.

There is only one litigation case related to SEPs in Türkiye, *Vestel v Koninklijke Philips N.V.* case which is discussed in part 5.4. Another SEP related case before German and UK courts of the Turkish company Vestel is examined in part 5.5.

5.1 Role of Institutions in Standard Essential Patents in Türkiye

In Türkiye patents are protected through Industrial Property Law⁵⁰ which entered into force in 2017. Turkpatent, which was established in 1994, is the responsible government authority for the registration of industrial properties in Turkey. As a result of the territoriality principle of the patent law, the patents registered in Türkiye are protected only within Türkiye territories (Bozkurt Yüksel, 2009, p. 45).

EU-Türkiye Customs Union Agreement in 1995 was a milestone for IPRs in Türkiye. Until EU-Turkey Customs Union, matters related with IPRs could not be governed effectively. Article 31 and Annex 8 of the Customs Union Decision⁵¹ require that

⁵⁰ Law No. 6769 of December 22, 2016, on Industrial Property

⁵¹ Decision No 1/95 of the EC-Turkey Association Council of 22 December 1995 on implementing the final phase of the Customs Union

Türkiye insures adequate and effective protection and enforcement of IPRs and that it would implement the the TRIPS agreement of WTO where each EU Member State is also a party to. In terms of patents, Türkiye is party to the PCT, as well as the EPC of EPO. Türkiye has been a member of the EPO since 2000 and participates to EPO bilateral as well as multi-lateral cooperation programs. By the agreement between Turkpatent and WIPO in 2018, the Office has become International Searching Authority and International Preliminary Examining Authority for patent applications under the PCT⁵². Turkpatent has a well-established infrastructure for search and examining of patent applications.

The objective of the patent system is incentivising the innovators to make innovations through patents. Patents provide a form of governmental protection that prevent other parties to product, sell or use of the patented technology without the consent of the patent owner (Asan & Özdoğan, 2021, p. 17). An efficient patent system has benefits for the national economy as well as the economy of the patent holding entity (Noyan, 2015, p. 100). It is a fact that a granted patent needs to be utilised in order to create economical benefit, otherwise patent granting does not go beyond just being a certificate and all the investment and R&D efforts become void if the patent is not commercialised. Figure 5 gives the number of granted patents of national applicants by Turkpatent. There have been approximately 3000 patents granted yearly on average but none of them has been included in a standard. It is not known how many of these nationally 3000 granted patents/year have been actively used since there has not been a database regarding the commercialisation of patents in Türkiye (Hangül, 2018, p. 87) but according to a study of EPO 36% of granted patents are exploited, 42% of patents are planned to be exploited while 21% of patents are neither exploited nor planned to be exploited for the patents applied by European Universities and public research organisations (European Patent Office, 2020, p. 7). In another study by the Japan Patent Office, it was found out that 50,3% of the granted patents were not

⁵² Agreement between the Turkish Patent and Trademark Office and the International Bureau of the WIPO in relation to the functioning of the Turkish Patent and Trademark Office as an International Searching Authority and International Preliminary Examining Authority under the PCT (as in force from January 1, 2018).

exploited at all, which is a huge number (Tanaka, 2010, p. 2161). Based on these statistical figures, the commercialisation rate of Turkish patents are not expected to be high. Including a patent into a standard is an ultimate point for commercialisation of patents since all the standard implementers will inevitably use the patent. Therefore, Turkish innovators, institutions and entities need to focus on standardisation activities in parallel with the R&D and patenting activities in order to get full benefit of the investments on innovation and patenting.

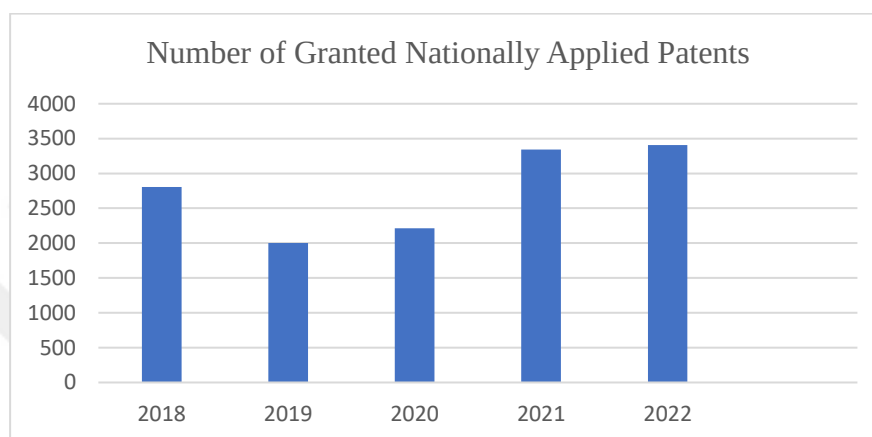


Figure 5: Number of granted patents by Turkish Patent and Trademark Office
<https://www.turkpatent.gov.tr/patent-istatistik>

SEPs can be defined as a type of “essential facility” according to Essential Facility Doctrine⁵³ in Turkish competition law, as well as in the EU law, as they are “essential” in order to be able to perform in the market and it is not possible to perform in the market without utilizing them from technical, legal and economic point of view (Turney, 2005). Accordingly, the SEPs that are subject of essential facility should be provided to the enterprises who would like to be active in the related market; and this situation is commented to be an exception to the freedom to conclude contracts in Article 48⁵⁴ of the Turkish Constitution (Aslan, 2016, p. 764). Competition Authority

⁵³ Under the essential facility doctrine, a monopolist that denies a competitor access to an input considered an essential facility violates competition rules.

⁵⁴ Article 48 - Everyone has the freedom to work and conclude contracts in the field of his/her choice. Establishment of private enterprises is free. The State shall take measures to ensure that private

of Türkiye (TCA) has actively been taking actions related to SEPs; it has successfully adopted the Guidelines on the Applicability of Article 101 of the TFEU to horizontal co-operation agreements in Turkish legal system, which is explained in part 5.3.

TSE has been a member of International Organization for Standardization (ISO) (TSE - ISO), IEC (TSE - IEC), CEN (TSE-CEN) and CENELEC (TSE - CENELEC). TSE also carries out the secretariat duties of some of the technical committees of CEN (TSE-CEN). TSE created Mirror Technical Committees (MTC) to follow up the technical committees of ISO, IEC, CEN and CENELEC and also to prepare Turkish companies to be members of these SDOs (TSE - Ayna Komite Çalışmaları). In 2019, TSE prepared the “Improvement of Standardisation System and Raising Awareness” project which was supported by the EU Instrument for Pre-accession Assistance (IPA) programme. The objective of the programme was announced as, enhancing the participation to the standardisation actions from Türkiye and developing the information infrastructure (Türk Standartları Enstitüsü, 2019).

BTK joins the standardization activities of some SDOs such as ITU and ETSI, and regulates and audits the standards in telecommunication area in Türkiye. BTK also works in cooperation with the EU about the standardisation policies and harmonise Turkish telecommunication standards with the EU standards (Bilgi Teknolojileri ve İletişim Kurumu, 2021).

BTK and Ministry of Transport and Infrastructure jointly set up New Generation Mobile Communication Technologies Türkiye Forum (5GTR Forum), to implement highest degree of local resources and technologies as much as possible to the next generation communication systems (5GTR Forum). The members of the 5GForum are composed of telecommunication companies, universities, government institutions and technology developing entities (5GForum). A Standardisation Working Group was established under the 5GForum to carry out the standardisation activities, ecosystem informing, patent and IPR management (5GTR Standardization Working Group).

enterprises operate in accordance with national economic requirements and social objectives and in security and stability.

Turkish Industry and Business Association (TÜSİAD) created a task force on technology standards and SEPs; this task force conducted a comprehensive study on SEPs and published series of reports on SEPs. The details of these reports are discussed in part 5.6.

TÜSİAD's report on analysis of current situation about SEPs in Türkiye (TÜSİAD-Rapor 5, 2022) reveals that most of the Turkish companies are just the implementers of SEPs and they are not fully aware of the details about SEPs.

Even though, there have been Turkish institutions and companies who are members of European and international SDOs⁵⁵, the participations of Turkish entities to the SDOs' activities are not at desired levels. Additionally, Turkish entities have not been very active in standard developing processes, yet. On the other hand, technology developing entities and possible implementers from the USA, Europe, Japan, South Korea, India and China are active participants of SDOs (Contreras, 2018) and they aggressively offer their patented technologies to be implemented in the standards under development. Lobbying activities have important role for the entities of these countries in order to get support for their technologies.

Although Turkish companies do not own a SEP yet, the “polar codes” concept developed by a Turkish scientist, Prof. Dr. Erdal Arıkan, created the base for many patents developed by Huawei. These polar codes related patents were agreed to become a 3GPP standard for the 5G technology, which is resembled to a global nervous system. This choice of polar codes technology as the 5G standard was a breakthrough event for Huawei and also for China, since the event had a symbolic importance showing that Chinese telecommunication companies can compete with western companies at equal effectivity in standardisation activities. With the polar codes standard, Huawei became the leading company in 5G and it is estimated that

⁵⁵ Such as TSE, Ministry of Transport and Infrastructure, BTK, Kadir Has University, Plan S Uydu ve Uzay Teknolojileri A.Ş., Sigma Telecom, TT Mobil İletişim Hizmetleri A.Ş., Türksat Uydu Haberleşme Kablo TV ve İşletme A.Ş., Turkcell, Türk Telekom, etc.

due to 5G, China will have 10 or more trillion-dollar companies in the near future⁵⁶ (Levy, 2020).

Turkish technology developing entities should be much more active in SDOs, as including a patent in a standard makes huge contribution to the economy, prestige and capability of both the related entity and the country. It also contributes to the technological innovation in Türkiye. In today's global structure, it is difficult to survive without technological advancement.

There might be collaboration between Turkpatent and TSE to define a strategic pathway on increasing the quality of the national patent applications to obtain internationally accepted technological patents and ultimately include the Turkish patents into international standards. Having more valuable patents accepted by international technical authorities will increase the probability to include them into standards and also will have positive effect on Türkiye's prestige in the international arena as a technology developer country.

The effects of holding national SEPs should be evaluated from an integrated approach such as its implications to micro and macro economies, becoming an international player in technological arena and facilitating to the national reputation. Accordingly, there might be incentivising regulations about SEPs in Türkiye in a way to protect the interests of local SEP holders and support their further innovative works.

5.2 Standard Essential Patents from Türkiye and the European Union Harmonisation Point of View

As an EU candidate country, Türkiye needs to adopt EU's system, rights and responsibilities that are linked to the EU's institutional framework. Among the 35 chapters which were determined with Türkiye's Negotiation Framework Document, SEPs are particularly important for the six chapters listed below:

- Free movement of goods (1st chapter)

⁵⁶ In the internet era, Apple, Microsoft, Google, Amazon and Facebook have become the trillion dollar companies in the US (Tyagi, 2021).

- Intellectual property law (7th chapter)
- Competition policy (8th chapter)
- Digital transformation and media (10th chapter)
- Trans-European networks (21st chapter)
- Science and research (25th chapter)

Free movement of goods: Free movement of goods is about the creation and development of an area without internal borders, where there are no unjustified restrictions to trade between EU Member States based on common rules and procedures. As part of this principle, technical standardisation for meeting the essential requirements are determined and these standards help to ensure free movement of goods in the internal market, allow businesses in the EU become competitive and protect health and safety of consumers and the environment (Ratcliff, Martinello, & Litos, 2022). The “USB Type-C port” standard for chargers of all mobile phones and tablets throughout the EU (European Parliament - News, 2022) is an example of this technical standardisation. Therefore, technical standards and related SEPs play a critical role in free movement of goods. According to the Commission’s 2022 Türkiye Report (SWD(2022) 333 final, 2022, p. 82), Türkiye is aligned with the EU *acquis* on technical regulations and standards. It is stated that TSE is capable of implementing European and international standards. The report mentions about TSE’s membership of CEN and CENELEC and high level of national standards harmonisation with CEN and CENELEC standards. The report also points out that seven Turkish operators are members of ETSI.

Intellectual property law: Intellectual property law consists of patent law and the EU has harmonised rules for the protection of IPRs. According to the Commission’s 2022 Türkiye Report (SWD(2022) 333 final, 2022, p. 87), Türkiye has a good level of preparation in terms of legislative alignment and institutional building for IPRs. In the report, it is recommended that the enforcement measures should be improved in order to prevent IP infringements and improvement of the specialisation in courts dealing with IPR infringements is needed. These specialisations might include SEP cases.

Competition policy: According to the Commission's 2022 Türkiye Report (SWD(2022) 333 final, 2022, p. 87), the legislative framework on anti-trust and mergers is broadly aligned with the EU *acquis*. It is stated that the law on the Protection of Competition, broadly reflects Articles 101 and 102 of the TFEU which have been discussed in various SEP related Member State court decisions and the Commission decisions so far in this study.

Digital transformation and media: The objective of this chapter is to ensure liberalisation of electronic communications services and networks, to eliminate barriers for the effective functioning of the Single Market and to create modern services that will be available universally (Directorate for EU Affairs, 2022). Regarding media part, the *acquis* aims to ensure free movement of audiovisual media services within the EU. The DSM Strategy is a component of this chapter. According to the Commission's 2022 Türkiye Report (SWD(2022) 333 final, 2022, p. 95), there still is a need to align the Turkish legislation with the EU *acquis* on electronic communications and information technology. Türkiye has not progressed in procurement of 5G. Once 5G is in effect, an increase is expected in the SEP related issues.

Trans-European networks: The EU's Trans-European Networks policy links regional and national infrastructure which requires interconnection and interoperability for transport, energy and ICT (European Investment Bank website). According to the Commission's 2022 Türkiye Report (SWD(2022) 333 final, 2022, p. 114), the electricity networks in Türkiye have been upgraded in line with the EU standards. In order to maintain the interoperability and interconnection, the EU standardisation policies in this area should be followed closely and applied accordingly.

Science and research: The *acquis* in this chapter requires the Member States to ensure the necessary implementing capacities to pursue the EU objectives and activities in the field of research and technological development; efficient participation of Turkish Research Area to EU programs is required (Directorate for EU Affairs, Chapter 25 , 2022). When the role of standards and patents in technological advancement is

considered, the importance of SEPs for this *acquis* comes to the front. This chapter is the only provisionally closed chapter in Türkiye's EU negotiations. In Commission's 2022 Türkiye Report (SWD(2022) 333 final, 2022, p. 105), it is advised to increase the share of R&D expenditure to GDP in order to close the gap between R&D expenditure in Türkiye and EU Member States. In the report, Türkiye is also encouraged to advance on all aspects of the digital transition.

Overall, SEPs have critical importance for the advancements in the above mentioned six chapters in Türkiye's EU Accession Negotiations and SEP related developments in the EU will definitely affect Türkiye from various aspects in these chapters. As the adoption of 5G is completed in Türkiye, many SEP implementing sectors will be more active within the country. Türkiye is in good standing in terms of patent protection law, however improvements are needed about enforcement of the law. In terms of applying competition rules on SEP cases, Türkiye is highly aligned with the EU *acquis* and Türkiye should continue to follow up the developing SEP rulings and policies in the EU.

If the expenditures on R&D will increase as advised, technological innovations in Türkiye might lead to obtaining SEPs owned by Turkish entities in the future. Owning SEPs can accelerate technological and economical developments and may contribute to accession negotiations. In the study by Zhylynska et. al. (2020), they define strengthening the innovative factor of economic growth as a necessity in the way towards to the EU membership. As stated in the objectives of the *acquis* efficient participation of Turkish Research Area to EU programs is required; accordingly the participation of Turkish entities to SDOs in the EU should be encouraged.

5.3 Turkish Competition Authority's Guidelines on Horizontal Cooperation Agreements

The Guidelines set out the principles in evaluation of horizontal cooperation type actions, such as agreements between enterprises, decisions of enterprise associations and related practices, in terms of Articles 4 and 5 of the Act no: 4054 on the Protection of Competition in Türkiye. Subparagraph (d) of Article 4 might be related to SEP licensing issues; by this provision, complicating and restricting the activities of

competing undertakings or excluding firms operating in the market or preventing potential new entrants to the market are prohibited. Subparagraph (e) might be related to FRAND terms and by this provision, applying different terms to persons with equal status for equal rights, obligations and acts are prohibited, except exclusive dealing. Subparagraph (f) of Article 4 might be related to forced cross-licensings and patent bundling without the will of the licensees in SEP agreements and the provision prohibits obliging the purchaser to purchase other goods or services together with a good or service.

Turkish Competition Authority's Guideline has been adopted from the EU Guidelines on the Applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements and has the same provisions with the EU Guideline.

5.4 Vestel v Koninklijke Philips N.V.

The nature of the patent system is based on a monopolistic market and the patent holder is the only decisive party whether to allow other parties to use the patent or not. However, as discussed in earlier chapters, most of the time SEPs are mandatory patents to be utilised in order to comply with certain standards and to be operable in the market; therefore they are indispensable for the producers of the related technologies. FRAND obligations for SEPs limit the authority of the patent holders for avoiding anti-competitive actions of SEP holders. In this regard, the attitudes of competition authorities are important in balancing the benefits of the public and the patent holders, in order to achieve a sustainable system.

In December 2019, Turkish Competition Authority announced its first decision related to SEP (Vestel v Koninklijke Philips N.V., 2019). The case consists of many of the subjects about SEPs discussed so far in this study. The investigation against Koninklijke Philips N.V. (Philips) had started based on the Turkish company Vestel's allegations stating that Philips had abused its dominant position as being the SEP holder of a subtitle technology that is standard for digital television technology. Turkish Competition Authority investigated the Philips' acts within the scope of Act

No: 4054 on the Protection of Competition Article 6⁵⁷, which is about the “abuse of dominant position”.

Vestel alleged that Philips had abused its dominant position by behaving discriminatory and exclusionary towards Vestel, through the acts of:

- licensing negotiations without good-faith,
- seeking injunctive relief with the threatening of confiscating the products in warehouses,
- charging excessive licensing royalty rates,
- adding termination upon challenge clause in the agreement,
- requiring an obligation to prove the exceptions.

Additionally, Vestel claimed that Philips determined the licensing conditions unilaterally and forced Vestel to accept these conditions under the threat of injunctive relief.

Philips owns the patents EP0745307 (EP307) and EP0754393 (EP393) which are related to subtitle technology to be used in DVB and these two patents were determined as SEP by the ETSI as ETSI 300 743 DVB subtitling standard; accordingly Philips gave a commitment to license these SEPs with FRAND licensing terms before the ETSI. In Türkiye, panel television producers have to comply with this subtitling

⁵⁷ “Article 6 of Act no: 4054: The abuse, by one or more undertakings, of their dominant position in a market for goods or services within the whole or a part of the country on their own or through agreements with others or through concerted practices, is illegal and prohibited.

Abusive cases are, in particular, as follows:

- a) Preventing, directly or indirectly, another undertaking from entering into the area of commercial activity, or actions aimed at complicating the activities of competitors in the market,
- b) Making direct or indirect discrimination between purchasers with equal status by offering different terms for the same and equal rights, obligations and acts,
- c) Purchasing another good or service together with a good or service, or tying a good or service demanded by purchasers acting as intermediary undertakings to the condition of displaying another good or service by the purchaser, or imposing limitations with regard to the terms of purchase and sale in case of resale, such as not selling a purchased good below a particular price,
- d) Conduct which aim to distort competitive conditions in another market for goods or services by means of exploiting financial, technological and commercial advantages created by dominance in a particular market,
- e) Restricting production, marketing or technical development to the prejudice of consumers.

standard, therefore using the mentioned two Philips standards is indispensable for digital television producers that operate in Turkish market.

The conflict between Vestel and Philips started in 2009. In that year, after Philips identified that Vestel had been using its two SEPs without any licensing, it sent a notification to Vestel about its patent infringement. The negotiations between Vestel and Philips continued for more than two years but failed to reach an agreement. During this period, Philips offered a written licensing agreement, but Vestel did not accept this offer and also no written counter-offer was made by Vestel. Vestel claimed that the relevant patents were invalid. Then, Philips initiated patent violation cases before the Mannheim Regional Court in 2012; in parallel, Vestel initiated a patent invalidity case in Germany, as well. Mannheim district court announced its decision before the invalidity case decision on 05.07.2013⁵⁸, and decided that Vestel infringed Philips' two SEPs. The court adjudicated that Vestel's products that contain Philips' two SEPs in Germany warehouses would be confiscated/annihilated and additionally other types of injunctive reliefs would be applied. Consequently, Vestel agreed to sign a licensing agreement on August 2013 with Philips which expired in January 2016, which is the invalidity date of EP393 (EP307 patent became invalid in December 2015). In the agreement the conditions were:

- If Vestel initiates a patent invalidity action, Philips has the right to terminate the agreement (Termination upon challenge clause).
- It would be assumed that all Vestel televisions having DVB subtitle function would be using Philips' SEPs unless Vestel proves opposite (obligation to prove the negative situation).

Turkish Competition Authority firstly assessed whether Philips was at a dominant position in the DVB subtitle technology market in Türkiye, or not, since Article 6 limits the undertakings by being "dominant" in the market. As stated in Turkish Horizontal Cooperation Guideline paragraph 240, owning a SEP does not always entail being in a dominant position in the market and every case should be assessed in

⁵⁸ Mannheim District Court Decision no: 7 O 128/12 and Decision no: 7 O 195/12, Date: 05.07.2013

its specific circumstances. Competition Authority investigated whether EP307 and EP393 are mandatory patents in Turkish market and concluded that, the DVB subtitle technology standard in Türkiye requires Philips' patented technology to be implemented in digital televisions and there were no alternatives to this technology. Accordingly, the Authority came up with the opinion that Philips held a dominant position in the market with 100% market share.

The Competition Authority decision referred to *Huawei v ZTE* decision of the CJEU⁵⁹ in order to determine when seeking for injunctive relief in the court may amount to an abuse of dominant position in SEP cases. Philips had alerted Vestel several times starting from 2009 complying with the first step of the CJEU ruling, however Vestel did not accept the offer and did not suggest a counter-offer. Both parties had not applied for a third party's opinion regarding the royalty rates. The Authority concluded that Philips, as the SEP holder, should have applied to an independent third party for the determination of the royalty rates, before a patent infringement action. Bringing the case to the court without getting a third party's offer was deemed as an abuse of dominant position, by the Competition Authority.

Here it should be noted that the CJEU does not make "taking the third party's opinion" an obligatory action before seeking for an injunctive relief, as it is stated as "the parties *may*, by common agreement, request that the amount of the royalty be determined by an independent third party, by decision without delay". Also, in the CJEU decision it is not only the SEP holder's responsibility to ask for a third party's opinion, since the decision says "by common agreement". However, the Competition Authority appreciated the third party opinion as a must obligation for the SEP holder before the court application, in its decision. This point was emphasized in one of the Board Members' dissenting vote in the Competition Authority decision.

Regarding to the termination upon challenge clause, which means the licensor can terminate the agreement if the licensee challenges the validity of the patent; the Competition Authority stated that licensees always had the right to investigate whether

⁵⁹ Case C-170/13, 16 July 2015

the SEPs in question were still valid. This situation was also underlined in the *Huawei v ZTE* decision with the statement: “The implementer cannot be criticised for challenging, in parallel to negotiations for a grant of licence, the validity of the SEP or the essential nature of the SEP or for reserving the right to do so in the future.” Consequently, by referring to the CJEU decision, the Competition Authority decided that the termination upon challenge clause was an indicative of an abuse of a dominant position.

In a parallel manner, in its “Motorola –Enforcement of GPRS standard essential patents” decision of 2014 in part 4.1.7, the EU Commission stated that implementers should be able to ascertain the validity of patents and contest alleged infringements. It should also be taken into account that the decisions of both the CJEU and the Competition Authority are on the contrary side of the Orange Book Standard (in part 2.4) which requires an “unconditional offer” to license from the implementer, which means not to challenge the alleged infringement or the validity of the patent.

Regarding the allegations of Philips’ discrimination against Vestel, the Competition Authority referred to *IP Bridge v HTC* decision of the Mannheim District Court (4iP Council, 2018) (McDonagh & Bonadio, 2019), stating that the SEP holder shall determine the SEP licensing fees in a transparent manner. Philips disclosed the unit licensing prices of some of its patentable technologies on its website but the case related patents were not among these disclosed technologies for the years 2011-2016. Philips stated that the licensing fee related information about the TV/STB technologies were declared upon demand in those years. The Competition Authority concluded that Philips did not make SEP licensing fees publicly available and only shared the information when requested by third parties, and therefore judged that situation as abuse of the dominant position. In his dissenting vote, one of the Board Members of the Competition Authority pointed out that transparency was not one of the FRAND compliance subjects and it was more demanding than the FRAND conditions; therefore he stated that making SEP fees available on demand could not be deemed as violation.

Regarding to excessive pricing claims, the Competition Authority adopted the method of evaluating the value of the standard in the licensee's product; this method is also favoured by the EU authorities. Accordingly, it is assessed whether there is a reasonable correlation between the royalty rates and the economic value of the IP right. Additionally, the Competition Authority assessed the licensing fees of other companies practicing in digital television market in Türkiye for comparison. However, the Authority stated that it was not possible to compare the licensing fees of other companies with Vestel because the licensing agreement condition for each company was different such as including cross-licensings, or comprising of patents other than these two SEPs. The most comparable one was Arçelik's 2011 dated licensing agreement. Authority concluded that Vestel's royalty rates were not high when compared to Arçelik's licensing fees and also their part in Vestel television sales prices and average unit costs. As a result, the Competition Authority adjudicated that Philips did not charge excessive pricing for its SEPs to Vestel.

Another clause of the licensing agreement was, if Vestel used an alternative technology (modified version) for the subtitles, it had to prove it to Philips in order to exclude them from patent charges. This condition is called "proving the exceptions clause". Vestel stated that it had developed an alternative technology to Philips' subtitle technology and in some of its panel televisions, it used this technology, and therefore these televisions should be exempt of the licensing. However, according to the licensing conditions, Philips required the information (brand, model, quantity, etc.) about these products in order to exempt them from licensing fees. Related to this clause, Philips started two cases against Vestel in Hamburg Court, both cases were concluded against Vestel and Vestel was charged for the modified technology including products; however Vestel denied paying for these modified products. Regarding this clause, the Competition Authority again referred to *Huawei v ZTE* decision and stated that the SEP holder (not the licensee) must hold the burden to prove the infringement claims. The Authority added that changing this burden would hamper the development of new technologies (Yüksel, 2020).

In conclusion, the Competition Authority adjudicated with majority of votes that Philips abused its dominant position and imposed an administrative fine amounting to 0.75% of its 2018 turnover.

Thereafter, Philips applied to the Administrative Court for the annulment of the Competition Authority's decision. In its 06/06/2021 dated decision the Court of the First Instance cancelled the Turkish Competition Authority's decision⁶⁰. The court concluded that:

- Philips noticed Vestel about its patent infringements and offered licensing agreement in written format.
- Philips and Vestel had negotiations for more than two years but they failed to reach an agreement.
- Vestel claimed invalidity of the patents and offered lower royalty rates than other licensees.
- Philips chose to seek for injunction relief before courts, as the negotiations yielded no result and this action could not be deemed as an abuse of a dominant position.
- According to the *Huawei v ZTE* decision of the CJEU "taking the third party's opinion" is not an obligatory action before seeking for an injunctive relief; therefore it cannot be counted for an abusive action in terms of competition.
- Although Philips had the confiscation decision of the Mannheim court, it did not ask for excessive licensing rates or default interest or conventional penalty. Also, Philips did not put the confiscation decision of the court into action, instead it chose to offer for a licensing agreement.
- The licensing rates of Vestel were not high when compared to television selling prices and average unit costs.
- "Termination upon challenge clause" could not be deemed as contradiction to competition conditions, when the elongated course of negotiations is considered.

⁶⁰ Ankara 11th Administrative Court Docket number: 2020/1525, Decision no: 2021/1121, date: 03/06/2021

- Since “transparency” issue was not one of the subjects of abuse of a dominant position in the investigation report and the additional opinion, Philips did not have the privilege of self-defence about transparency.

In conclusion, the administrative court decided the annulment of the Competition Authority’s 26.12.2019 dated and 19-46/790-344 numbered decision.

Vestel v Koninklijke Philips N.V. case is the first SEP case investigated by the Competition Authority and the first SEP case that came before a Turkish court. However as the SEP implementations become more widespread, the number of SEP related disputes between Turkish implementers and SEP holders will increase eventually. Therefore, clarifications on SEP related disputes will be needed in litigations. SEP policies to minimise the number of disputes are needed to be developed in order to avoid a chaotic SEP environment. In the future, Turkish courts may choose to put into effect methodologies to determine FRAND rates in FRAND disputes, which may make Türkiye a favoured SEP litigation place for the parties outside Türkiye (EU Member State courts do not prefer to determine FRAND rates as mentioned in 2.2). ADRs may also be adopted for the SEP disputes in Türkiye, prior to the EU. As a result, Türkiye will need professionals on SEPs about FRAND determination, assessment of patent validity/essentiality, attorneys and jurists.

5.5 Vestel v Access Advance

Access Advance is an independent licensing administrator which manages a pool of patents essential to the High Efficiency Video Coding (HEVC) standard for high-definition broadcasts. Turkish company Vestel started several proceedings in the UK and the Netherlands in 2019, alleging that the global licensing terms set by Access Advance were not FRAND and they were contrary to Article 102 TFEU.

In the UK, Vestel alleged that Access Advance and Philips’ patent portfolio licence agreement was not FRAND and Vestel’s counter-offer of licensing terms were FRAND compatible, or Vestel asked for the court’s valuation of FRAND terms (8 New Square, 2021). The High Court of the UK declined jurisdiction over the claim

since Access Advance was a US based corporation and Philips was a Netherlands based corporation (Blackstone Chambers, 2021).

On the other hand, the Regional Court of Düsseldorf rejected the request of two plaintiffs for injunctive relief in a dispute involving the Access Advance patent pool members against Vestel. Pool members, GE Video Compression, Dolby, IP Bridge and Philips accused Vestel of infringing six SEPs of the patent pool. Regarding GE and Dolby allegations⁶¹ the court decided that the licences do not comply with FRAND rules and thus they are non-FRAND and dismissed the plaintiff's application for injunctive relief in 2021 (Richter, 2022). According to the Regional Court Düsseldorf's decision, Access Advance, announced that they revised their duplicate royalty policy, which prevents double licensing of overlapping SEPs taking place in more than one standard (Access Advance, 2022).

Regarding the IP Bridge and Philips patents, the court stayed proceedings⁶² until the Federal Patent Court decides on the patent validity of their SEPs.

The non-FRAND decision of the Regional Court Düsseldorf is a rare one since German courts are known for acting favourably for patent holders, in general.

5.6 Turkish Industry and Business Association (TÜSİAD) Task Force on “Technology Standards and Standard Essential Patents”

In 2020, TÜSİAD Board of Directors decided to establish a Task Force about “Technology Standards and SEPs” in order to draw attention to the strategic importance of the technology standards and SEPs and also create a road map to contribute to the public and civil society. In this regard, the objectives of the force task were defined as (TÜSİAD-Rapor 5, 2022):

- Following the developments worldwide and facilitating protection practices,

⁶¹ Case IDs 4c O 42/20 and 4c O 58-60/20

⁶² Case IDs: 4c O 43/20 and 4c O 44/20

- Identifying the cost effects of standards,
- Preparing a road map for being a participant in technology standards.

The studies of the task force were published in “TÜSİAD Technology Standards and Standard Essential Patents Report Series” consisting of five reports (TÜSİAD-Rapor Serisi).

SEP strategies of six leading countries in this area were studied in the “Standardisation Actions Country Examples Report” (TÜSİAD, 2021). In this study, it was found out that one of the common points among these six country applications was the management of SEPs based on the national policies developed by collaboration of private sector, public institutions, universities and non-governmental organisations (NGOs) (TÜSİAD-Yol Haritası, 2022). Another point that TÜSİAD reports emphasize is the necessity of efficient collaboration with other countries’ members in order to be successful in international SDOs (TÜSİAD-Rapor 5, 2022, p. 16).

In “The Current Situation in Türkiye and Gap Analysis Report”, it is stated that advancing in technological capacity is not the only challenge for Türkiye but, getting acceptance for the developed technologies in the international arena is also a difficult task that needs to be focused on (TÜSİAD-Rapor 5, 2022, p. 16). It was also found out that the awareness level about technology standards at private sector is around 60% and at universities it is around 50%. This awareness rates are for technology standards, not for SEPs (TÜSİAD-Rapor 5, 2022); so it is expected that the awareness level for SEPs would be much lower.

TÜSİAD Task Force prepared a road map on technology standards and SEPs based on the findings of its studies to contribute to the actions of private sector, public institutions and NGOs on SEPs (TÜSİAD-Yol Haritası, 2022). This road map consists of action suggestions to develop the SEP environment in Türkiye; these actions include developing SEP related policies, creating awareness activities, supporting standard developing activities, creating human resources in SEP area, participation to international SDOs’ activities and strengthening legal infrastructure about standardisation (TÜSİAD-Yol Haritası, 2022).

CHAPTER 6

CONCLUSION

Standards are vital for technological advancement and for interoperability of technological devices and applications. Once a patented technology is implemented in the standard, the patent turns into a SEP and the standard implementers inevitably need to use this SEP to produce standard compliant products.

Standards provide the systems to work in coherence and ensure interoperability and compatibility of products in the market; thus enable variety in consumers' choices by providing complementary or integrated products. Standards also contribute to increase competition and lower output and sales costs. On the other hand, if they are not managed properly, standards may have adverse effects from the competition point of view, such as excluding parties from the market, limiting/controlling production, generating monopolies and abuse of dominant position in the market.

Standard Essential Patents Related Law in European Union:

Standards and SEPs are one of the cornerstones of the EU Single Market and Digital Single Market. Since SEPs are composed of two dimensions, which are standards and patents, the legal aspects of SEPs are related to standards, patent rights and competition rules.

Standards have been mentioned in the EU law as one of the critical components since they are required to ensure harmonisation, common applications and coordinance in the market. Establishing common standards for technological cooperation, interconnection and interoperability throughout the EU is deemed necessary according to the EU fundamental treaties.

Regarding the patent protection, although there is the European Patent Convention (EPC) which is a regional patent system, there has not existed a unified patent protection throughout the EU, yet. By the EPC, the EU Member States have transferred the duties of examining and granting a patent with effect to their territory to European Patent Office (EPO) but they remain responsible for the enforcement of the patent rights. Unitary patent system is going to go into effect in June 2023, and it will provide European patent with unitary effect across all participating countries and the Unified Patent Court which will offer a single, specialised patent jurisdiction.

Competition rules are one of the fundamental requirements of the EU starting from the European Coal and Steel Community. Chapter 1 of “Title VII: Common Rules on Competition, Taxation and Approximation of Laws” of the TFEU is about rules on competition and Article 101 of this Chapter defines the acts of distortion of competition within the common market. Article 102 of the TFEU (ex Article 82 Treaty Establishing the European Economic Community-TEEC) prohibits abuse of dominant position in the market.

The only legislative document that includes SEP related provisions in the EU is the “Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements” (2011/C 11/01). Chapter 7 of the Guideline is about “Standardisation Agreements” and in this chapter it is emphasized that standards increase competition and lower output and sales costs for the benefit of economies as a whole.

FRAND Commitments:

When a patent is defined as essential for a standard, the entity holding the patent, also acquires the control over the use of that standard, by virtue of the patent rights conferred by the law. Accordingly, the SEP holder could control the product or service market to which the standard relates. The situation may sometimes lead to restrictions on competition, such as “holding-up” users by way of refusing to license the SEPs or asking for excessive royalty fees thereby preventing effective access to the standard.

In order to limit monopolistic behaviours of SEP holders and ensure effective access to the standard, SEP holders are required to give fair, reasonable and non-discriminatory (FRAND) commitment by the SDOs; but FRAND commitments are not obligatory and it is expected that FRAND conditions are defined by licensee and licensor agreements.

FRAND has been a contentious issue in the EU since there have not been any rules to determine the FRAND rates and there has been no entity or regulation in the EU that audit the licensing terms for the FRAND compliance. Due to lack of clarity on FRAND concept, there have been many disputes and consequently litigation cases on them. The fines of litigation cases amount to huge monetary values for most of the time. There has been little consensus so far on how courts should address the determination of FRAND licensing terms and which methodology best serves for the calculation of reasonable royalties. National courts in the EU do not prefer to enforce a FRAND rate in terms of monetary aspects but rather determine whether a proposed rate can be considered to be FRAND or not; unlike the UK courts where there are examples of FRAND determinations in SEP cases.

Standard Essential Patents Related Disputes:

The dispute rates are expected to increase as SEPs are used by wider type of undertakings depending on the technological developments, such as 5G, IoT, multi-functional devices, digitalisation etc. There has been a clear upward trend in the number of cases in EU Member State courts and the Commission in recent years.

In an ideal environment, SEP licencings are concluded with minimum search, effort and cost in a minimum negotiation period and guarantee the holder a fair return; disputes are resolved with minimum effort and costs. However, the disputes on SEPs generally arise from the patent holder's claim on SEP infringement or the potential licensee complaints that the patent holder has imposed unfair conditions on a licensing agreement.

In the infringement cases, validity is not a sufficient condition for the courts to grant injunctions on SEPs, which is contrary to other patents. The courts generally give

effect to the FRAND commitment. So, in the case of a litigation of SEP infringement, injunctive relief can only be granted if certain conditions are met demonstrating that the SEP holder is not acting in breach of competition rules.

SEP disputes have many negative effects to the economy and market dynamics such as extra costs, extra human working hours, hampering technological development, freezing production, causing shortage of products in the market, confiscation of products and being a burden for the whole economy. In that context, it is essential to have stable, efficient and fair rules governing the management of SEPs.

The European Commission and the Court of Justice of the European Union Cases of Standard Essential Patents:

Under the TFEU, the EU has exclusive competence over competition rules necessary for the functioning of the internal market and the Commission directly enforces EU competition rules. Since one branch of the SEPs is related to competition, the Commission has investigated several SEP related cases so far and their subjects can be grouped as patent pool cases, transfer of FRAND commitments, abuse of a dominant position and patent ambush.

In these cases the Commission's approaches can be summed up as follows. The Commission has a supportive perspective for patent pools as long as their conditions do not constitute a breach of the competition rules. The Commission finds it necessary to transfer the FRAND commitments together with the transfer of patent rights to third parties. The Commission does not question the availability of injunctive relief for the SEP holders as it finds the injunctive relief a necessity in terms of IPRs but this IPR enforcement should not be in a way to abuse of a dominant position.

The Commission has the view that if the potential licensee is willing to negotiate a FRAND licence where the SEP holder has given a FRAND commitment, then seeking for injunctive relief may constitute an abuse of dominant position according to Article 102 TFEU. "Willingness" and FRAND terms are needed to be determined on a case by case basis. The Commission does not make any interpretation on the validity or infringement of the patents in question since IPRs are under the Member States' law

competence. Moreover, the Commission does not set FRAND rates and it has the view that courts and arbitrators are well-placed to set FRAND rates in cases of disputes.

CJEU's preliminary ruling on *Huawei v ZTE* case has been a seminal one as it clarifies the points when seeking for injunctive relief does not count for an abuse of a dominant position. Before the *Huawei v ZTE* ruling, there were many different approaches and conclusions of the EU Member State's courts on SEP related cases. Although, the CJEU ruling has brought some clarification on the conditions to be met to grant injunctive relief in favour of the SEP holder, there have been still vague points left for the national courts' interpretation such as the "FRAND terms", "willingness", "good faith" and "diligent response" of the potential licensee. These unclear points result in different interpretations and variety in court decisions among Member States. Therefore, it can be said that there are points that still need to be worked on even after the *Huawei v ZTE* ruling.

SEP related cases should be interpreted from the perspective of patent rights and also from the competition law. While competition in the EU is protected through the EU law, patent rights are protected through national laws. Therefore, the EU institutions are not in a position to give more precise views or guidance on more technical questions about patent rights related part of the SEPs.

Member States Courts' Cases on Standard Essential Patents:

Member States national courts decide on the SEP cases based on their national law while respecting the EU law. EPC and EPO leaves the patent licensing parties free about the choice of the courts of litigations, therefore parties may choose where to open the litigation strategically (forum shopping). It is known that some national courts give the parties particular advantages. German courts are generally preferred by patent holders for litigation as they are said to be being advantageous in terms of competence and cost and also for their decisions heavily in favour of the patent holders to grant injunctive relief mainly due to Germany's research and development supporting policies.

However, the court decisions on SEP infringement cases are applicable limited to the jurisdiction area due to the territorial principal of patent protection. Therefore, in order to obtain injunctive relief in various countries, SEP holders need to start litigations in different jurisdictions. This situation results in burdensome and costly procedures for both patent holders and the allegedly infringing parties. Additionally, the decisions of different jurisdictions may not be in coherence due to the differences in national laws and also different interpretations of the EPC. These variations in the enforcement of patent rights hamper an equivalent level of protection throughout the EU.

Anti-suit injunctions (ASIs) have been presented to prevent inconsistent and incompatible decisions due to parallel litigations over the same issues in different country jurisdictions. ASIs block multi-jurisdictional litigations on the subject and they have been widely used in SEP issues. Multi-anti-suit injunctions are also possible which block the previous level action; such as anti-anti-suit injunctions prevent the parties from enforcing anti-suit injunctions. There has been no limit on the number of “anti”s in these injunctions and this situation causes complex issues in application and delays the disputes to reach to a solution.

ASI issue has caused a trade conflict between the EU and China. China has been frequently issuing ASIs for the cases where Chinese SEP implementers are defendants; so that EU Member State courts’ injunction decisions cannot be enforced. The EU has concerns about the transparency and objectivity of Chinese courts’ ASI decisions. The Commission has launched a case against China at the WTO with the argument that China’s actions are in breach of the WTO Agreement on Trade Related Aspects of Intellectual Property Rights. The case has not been finalised yet but it is obvious that a regulation is needed for ASIs to provide a level playing field globally. Although, ASIs were presented as a solution for inconsistent and incompatible results due to multi-jurisdictional litigations, at the point arrived, ASIs themselves have become a problematic issue in need of a policy development with the adverse effects of causing extra burden for the courts, international jurisdictional battles and providing a legal basis for the free rides on SEPs.

Establishment of the Unified Patent Court might provide consistency in patent decisions since they will be given by one court, and also it might simplify the procedures since there will be one place to seek for injunctive relief. The Unified Patent Court (UPC) is going to enter into force on 1 June 2023. It is expected that the UPC will establish harmonised case law and increase legal certainty on SEPs and non-SEPs infringement and validity related cases while contributing to avoid the high costs, risk and complexity associated with multiple litigation in different jurisdictions. It is one of the expectations that UPC might develop methodologies to determine the FRAND rates in FRAND disputes.

On the other hand, going for a litigation is a costly and time-demanding way of solution seeking. Policies and regulations can be developed in order to implement alternative dispute resolution mechanisms for SEP related disputes. The Commission may also create a supervising body, responsible for quality and performance, to design and define the SEP related procedures, to oversee the system and to harmonise the applications in different regions or countries.

Standard Essential Patents related concerns:

Over-declaration of SEPs is a widely encountered problem both in the EU and in the world, which causes paying unnecessary licensing fees for the implementers. Therefore, well-functioning transparent systems that provide essentiality and validity checks needs to be established urgently. Transparency issue has been found voice in the EU for a long time and it was widely emphasized in the “Setting out the EU approach to Standard Essential Patents” Communication in 2017; however it is difficult to say that there has been a considerable improvement in this area.

In the current system, the holders of patents or patent applications that might be the subject of the standard under development are required to disclose their patents (applications) *ex-ante* the determination of the standard to the SDOs (even some SDOs do not require this information). However, most of the time this information is not updated after the standard setting period, as a result, implementers and third parties have no information on the patent owners or their patents and accordingly, there is a high level of uncertainty surrounding SEP database.

SEP policies should necessarily include a system for the essentiality and validity assessments of SEPs in order to prevent unnecessary licensing payments. In this system, EPO, national patent offices and/or patent organisations may work in collaboration with SDOs in carrying out the assessments. This system should include up-to-date data and be easily accessible to patent holders, implementers and third parties. An independent European body, such as supervised networks of certified law firms, could be tasked to proceed with SEP essentiality assessment. Establishing a transparent SEP system has the potential to solve many problems of SEPs; the situation in smart grid industry is a proof of this, the dispute rates are very low in smart grid industry due to transparent tender based transactions.

Patent pools of SEPs are useful in terms of providing one-stop shopping for the implementers and they help to reduce transaction costs. The patent pools are checked by the Commission and authorities for their essentiality and for their compliance with the competition rules. As seen in the Commission decisions, patent pools are supported by the Commission. However, creating a patent pool is somewhat cumbersome and requires time and investment and it becomes cost effective if the relevant market is large. Within the scope of the EU competition law, the creation of patent pools or other licensing platforms should be encouraged. They can address many of the SEP licensing challenges by offering better scrutiny on essentiality, more clarity on aggregate licensing fees and one-stop shop solutions.

In some SEP licensing agreements the SEP holder includes “termination upon challenge” clauses in the licensing terms; the CJEU finds it against competition rules in its *Huawei v ZTE decision* and states that potential licensees of SEPs should remain free to challenge the validity, essentiality or infringement of SEPs.

Another controversial area in SEPs is the level of the supply chain of the product that the SEP licensing agreement should be conducted and the unit that should be taken as a base to calculate the royalties: ‘should it be the smallest intermediate unit that implements the SEP or should it be the final product?’ If the CJEU had issued a preliminary ruling on Düsseldorf Regional Court’s questions over the *Nokia v Daimler* case, these questions would reach to a clearer point, but after Nokia and Daimler got

to an agreement on the case, the CJEU removed the case from the register. So, where to seek a SEP licence in the supply chain remains a contentious issue in Europe. Furthermore, there have been many different applications in the market for determining the base unit in the supply chain and this variety in the application and lack of regulation cause disputes between parties.

Small and Medium Enterprises (SMEs) and start-up companies have been in a disadvantaged position in today's SEP landscape. When it is considered that 99% of EU's businesses are SMEs, it is particularly critical for the EU to take ameliorating actions for this group for the economic development and also to realize the digitalisation targets of the Union. SEP policies should alleviate the imbalances between the big market players and SMEs/start-up companies.

When the regulations and actions on SEPs in the EU are examined, there is a need of a comprehensive SEP policy development in the EU addressing the FRAND determination, consistency in court decisions, preventing huge amount of litigation cases on SEPs, providing transparency of SEP databases, clarifying the relationship between competition rules and IPRs and creating ADR systems to solve the SEP disputes. The decisions of the Commission are generally limited to each unique case and therefore they are inadequate to generalize; on the other hand, the CJEU ruling does not provide guidance to all aspects of the SEPs and many issues still remain vague. The CJEU only commented on the subjects which are under the EU competence. The Guideline on horizontal cooperation agreements in the EU presents some guidance for SEPs, but challenges remain to be addressed as an indicator of the need of a legal certainty.

Standard Essential Patents in Türkiye:

In Türkiye there has been a well-established national patent law and competition law; but SEPs, as an intersection point of them, have been quite newly explored area; therefore SEPs require intense focus and needs lots of work to become at a desired level.

Turkish companies are technology standards implementers, in general, rather than being technology standard developers. Although there have been some degree of participation at SDOs, the number of Turkish entities taking part in SDO activities is low and the participations generally remain as being observers rather than contributing to standardisation works. More qualified participation in standard setting activities is needed and presenting Turkish companies' patented technologies as SEP candidates should be the target in the near future. There needs to be incentives for R&D entities to be more active in developing technologies which might be subject to the standards of the future. Therefore, high quality patents are needed to be developed in order to get acceptance from the technology technical committees. Including Turkish national patents into standards should be the ultimate objective of patent granting in order to get full benefit of the investments on innovations. In this regard, Turkish Patent and Trademark Office and Turkish Standards Institution may work in collaboration to define a strategic path for effective management of standardisation of Turkish patents.

Incorporating patents into standards will have economic benefits and also contributes to the international prestige Türkiye as being an effective actor in technology development. Accordingly, there might be incentivising regulations about SEPs in Türkiye in a way to protect the interests of local SEP holders and support their further innovative works.

Following the SEP related developments in the EU and taking actions in this area is also important in terms of Türkiye's EU accession negotiations. SEPs have particular importance for the six chapters: Free movement of goods (1st chapter), intellectual property law (7th chapter), competition policy (8th chapter), digital transformation and media (10th chapter), Trans-European networks (21st chapter), science and research (25th chapter).

Vestel v Koninklijke Philips N.V. case is the first SEP case investigated by the Competition Authority and the first SEP case that came before a Turkish court. However as the SEP implementations become more widespread, the number of SEP related disputes between Turkish implementers and SEP holders will increase eventually. Therefore, clarifications on SEP related disputes will be needed in

litigations. SEP policies to minimise the number of disputes are needed to be developed in order to avoid a chaotic SEP environment. In the future, Turkish courts may choose to put into effect methodologies to determine FRAND rates in FRAND disputes, which may make Türkiye a favoured SEP litigation place for the parties outside Türkiye (EU Member State courts do not prefer to determine FRAND rates). ADRs may also be adopted for the SEP disputes in Türkiye, prior to the EU. As a result, Türkiye will need professionals on SEPs about FRAND determination, assessment of patent validity/essentiality, attorneys and jurists.

SEP related objectives can be attained through long-term well established strategic plans. In this context, Road Map of TÜSİAD Task Force of SEPs can make contributions in raising awareness and developing policies about SEPs. In order to check the validity and essentiality of SEPs, Turkish Patent and Trademark Office might work in collaboration with the SDOs that Turkish companies utilizes their standards; this would help the standard implementers to save money by avoiding unnecessary licensing fees for invalid/unnecessary patents. Overall, the collaboration of entities such as Turkpatent, TSE, BTK and other government institutions, universities and private sector is required to establish a well-functioning SEP environment in Türkiye.

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APPENDICES

TURKISH SUMMARY / TRKE ZET

Bu alıřmada, Avrupa Birlięi (AB)'nin standarda esas patentler (SEP'ler) konusundaki politikaları incelenmiřtir. Teknolojik geliřmeler ile birlikte SEP sayılarının ve kullanımlarının artması, farklı sektrlerden paydařların SEP sistemine dâhil olması ve buna baęlı olarak SEP konularındaki anlařmazlıkların artması, SEP'lerin teknolojik geliřmeler ve lek ekonomisi aısından ulusal ve uluslararası neme sahip olmaları ve Tek Pazar ve zellikle Dijital Tek Pazarın uygulanmasında kritik olmaları gibi hususlar SEP'lerin son yıllarda AB'de odak noktası haline gelmesine yol amıřtır. Bu doęrultuda, mevcut alıřmada, AB'de SEP'lerle ilgili yařanan geliřmeler, dzenlemeler, Avrupa Komisyonu tarafından yapılan alıřmalar, ye devletlerdeki ilgili davalar, Komisyon soruřturmaları, Avrupa Birlięi Adalet Divanı (ABAD) kararları incelenmiř, mevcut uygulamalar yorumlanmıř ve yasal ve uygulamadaki eksiklikler tespit edilerek zm nerileri sunulmuřtur. Ayrıca, bir AB aday lkesi olarak, Trkiye'deki SEP'ler konusundaki mevcut durum ve politikalar incelenmiř, geliřmeler yorumlanmıř, eksiklikler tespit edilerek SEP'lerin daha etkin ynetimi iin nerilerde bulunulmuřtur.

Gnmzn bilgi ekonomisinde, fikri mlkiyet haklarının, rekabeti dzenleyici ve sosyal ve ekonomik dengelere katkı saęlayıcı etkileri bulunmaktadır. lkeler ve uluslararası organizasyonlar, buluřları ve inovasyonu destekleyici politikalar retmek iin aba gstermektedirler.

Bir fikri mlkiyet hakkı eřidi olan patent koruma sistemi, patentli teknolojiyi belirli bir sre iin retme, satma veya patentleme konusunda buluř sahibine inhisari hak saęlar. Bunun karřılıęında buluř sahibi, buluřuna ait teknik detayları aıklar ve dięerleri tarafından ulařılabilir hale getirir, bu sayede bahsi geen buluř bařka yeni buluřlar iin kullanılabilir. Teknolojinin toplumların geliřimleri ve srdrlebilirlięi iin nemi arttıķa, patentlerin ekonomideki ve lke ve topluluk politikalarındaki

rolleri de artmaktadır. Günümüzün patent sistemi, buluş sahipleri, uygulayıcılar, patent ofisleri, vekiller, mahkemeler ve diğer paydaşlardan oluşan iç içe geçmiş bir sistem şeklindedir.

Standartlar ise endüstri, tüketiciler, kamu otoriteleri veya diğer ilgili kuruluşlar tarafından ortak kararlar sonucu geliştirilen teknik özelliklerdir. Standartlar pazar temelli rekabete katkı sağlamaktadır. Standartlar sayesinde tamamlayıcı ürünler/servisler arasında birlikte çalışabilirlik, test yöntemleri arasında uyum ve güvenlik, sağlık ve çevre konularındaki gereksinimler alanında ortak performans sağlanabilmektedir.

Standartlaşmanın faydaları şu şekilde sıralanabilir: Bir teknolojinin benimsenmesi, üretimde ölçek ekonomisi sağlaması, rekabeti artırması, maliyeti düşürmesi, kaliteyi artırması, ürünlerin/servislerin birlikte çalışabilirliğini ve uyumlarını garanti etmesi, firmaların araştırma ve geliştirme faaliyetlerine yatırım yapmalarını teşvik etmesi, tamamlayıcı ve uyumlu ürünlerin pazara sunulması ile tüketici seçeneklerinin artması ve bu sayede pazardaki fiyatların azalması. Standartlar sayesinde sistemlerin uyumlu bir şekilde çalışması sağlanmaktadır. Standartların aynı zamanda planlı eskitme stratejilerine karşı önleyici/iyileştirici etkileri de olabilir.

Standartlaşmanın pazarda uyum ve rekabet için önemi göz önüne alındığında, Tek Pazar ve dolayısıyla AB için vazgeçilmez unsurlardan biri olduğu aşikârdır. Standartlaşma, tahmin edilebilirliği ve fırsat eşitliğini beraberinde getirmektedir. Bu bağlamda, standartlaşmanın, değişim ve ayrıcalıkla anılan “inovasyon” ile çelişkili bir konsept olduğu düşünülebilir; ancak AB’de, dinamik standartlaşma inovasyon yönünden itici bir güç olarak öne çıkmaktadır. AB raporlarında, standartlar sayesinde sağlanan uyumlu çalışmanın olmaması halinde, sistemlerin potansiyel etkinliğinden %40 daha az faydalanılacağı belirtilmiştir.

SEP’ler ise görünüşte birbirine zıt iki kavram olan standart ve patentleri bir araya getirmektedir. SEP’ler standarda dâhil edilen teknolojilerle ilişkili olan patentlerdir ve SEP’lerin teknolojik gelişime katkıları ve pazar değerleri, etkiledikleri alanların genişliği sebebiyle SEP olmayan patentlere göre daha yüksektir.

SEP'lerin standart ve patent gibi farklı kavramları bir araya getirmesi, uygulamada sorunlara yol açmaktadır. Şöyle ki, standartlar bahsi geçen buluşun ortak kullanımını şart koyarken, patent koruması, ilgili buluşun kullanımına yönelik buluş sahibine inhisari hak tesis etmektedir. Bu sebeple, özellikle SEP'lerin lisanslanmasında ve kullanılmasında patent sahibi ve teknoloji uygulayıcıları arasında uyuşmazlıklar ortaya çıkmaktadır.

SEP'lerle ilgili, SEP sahibinden kaynaklı yaşanabilecek olumsuz etkiler şu şekilde sıralanabilir: Rakipleri pazardan dışlamak, fiyat rekabetini sınırlandırmak, üretimi sınırlandırmak veya kontrol altına almak, adil olmayan lisanslama fiyatları şart koşturmak, tekel oluşturmak ve patent tuzakları oluşturmak. Bu tarz olumsuzlukların önüne geçilmesi, pazarda fırsat eşitliğinin sağlanması ve sağlıklı bir rekabet ortamının oluşturulabilmesi için SEP'lere ilişkin düzenlemeler yapılması gerekmektedir.

Dijitalleşme, 5G, nesnelerin interneti gibi teknolojik gelişmeler, SEP'lerin çok daha geniş alanlarda ve daha fazla uygulayıcı tarafından kullanılmasını beraberinde getirmektedir. SEP alanındaki paydaşların sayısı arttıkça, bu ortam daha zorlu bir hal almakta, bununla birlikte artan lisans müzakerelerinin içeriği karmaşıklıklaştıkça müzakere süreleri de uzamaktadır; bu durum beraberinde uyuşmazlık sayılarındaki artışı getirmektedir ve bunun ilerleyen zamanlarda daha da karmaşık hale geleceği öngörülmektedir.

Gerek Avrupa Komisyonu soruşturmaları gerek üye devletlerin mahkemelerinde görülen davalar göz önünde bulundurulduğunda SEP konulu uyuşmazlıkların, dünyanın diğer yerlerinde olduğu gibi AB'de de ciddi bir iş yükü oluşturduğu görülmektedir. SEP konusundaki uyuşmazlıkların artmasının diğer olumsuz etkileri: teknolojinin gelişimini negatif yönde etkilemeleri, ilgili üretimin durması, pazardaki ürün çeşitliliğine ve fiyatlarına olumsuz etkileri, hali hazırda üretilmiş olan ürünlerin toplatılması, üretim sistemlerinin iptal edilmesi, paydaşlar için artan maliyetler ve genel ekonomiye olumsuz etkileri olarak sıralanabilir.

Etkin bir SEP sisteminde, lisanslama faaliyetleri mümkün olan en az seviyede araştırma, iş gücü ve maliyet içerirken müzakereler kısa sürede tamamlanır ve patent

sahibine adil bir getiri sağlar; diğer taraftan, anlaşmazlık çıkması halinde bu anlaşmazlıklar minimum çaba ve maliyet ile çözüme kavuşturulur.

Avrupa Komisyonu, 2020 Fikri Mülkiyet Aksiyon Planı'nda (COM(2020) 760 final, 2020) SEP'lere geniş yer vermiştir. Bu planda, SEP'lerin artan bir şekilde yaygınlaşmaya başladığı belirtilmiş, 5G ve nesnelerin interneti açısından önemi vurgulanmış ve ayrıca standartların, nesnelerin uyum halinde çalışması, araç teknolojileri, sağlık, enerji ve akıllı şehirler gibi alanlarda dijital entegrasyonun sağlanması açısından kritik değerde olduğu belirtilmiştir.

Avrupa Komisyonu 2017 yılında, SEP'lere yönelik AB yaklaşımının belirlendiği bir belge hazırlamıştır (COM(2017) 712 final, 2017). Bu belge yayınlandığından bu yana, AB, SEP'ler konusunda yeni bir çerçeve üzerinde çalışmalar yapmaktadır. Bu bağlamda, SEP'lerle ilgili lisanslamaya yönelik adil ve dengeli genel şartların oluşturulması, yasal düzenlemelerin yürürlüğe girmesi gibi konular ele alınmaktadır.

AB Konseyi, 2016 yılındaki “Dijital Tek Pazar ve Kamu Hizmetlerinin Modernizasyonu” paketinde, SEP sahipleri için adil bir yatırım getirisi sağlanırken özellikle küçük ve orta boy işletmeler (KOBİ'ler) başta olmak üzere tüm aktörler için SEP'lerin erişilebilir olacağı, dengeli bir SEP sisteminin gerekliliğinden bahsetmiştir ("A" Item Note 8735/16, 2016). KOBİ'ler ve girişimci firmalar günümüz koşullarında SEP konusunda dezavantajlı pozisyonda yer almaktadır, çünkü standartların geliştirilmesi ve lisans şartlarının belirlenmesi konuları daha çok büyük firmaların hâkimiyetindedir. AB'deki iş yapısının yaklaşık %99'unu KOBİ'lerin oluşturduğu değerlendirildiğinde, AB'nin ekonomik ve dijitalleşme hedeflerinin gerçekleştirilmesinde KOBİ'ler ve girişimciler için SEP alanında iyileştirici/geliştirici önlemlerin alınması önem arz etmektedir.

SEP'ler bilgi ve iletişim teknolojilerinin işlevlerinin sağlanabilmesi için gerek duyulan bileşenlerin en önemlilerinden biridir. Nisan 2016 tarihli Avrupa Komisyonu'nun “Dijital Tek Pazar'a Yönelik Bilgi ve İletişim Teknolojilerinin Standartlaşma Öncelikleri” başlıklı belgesinde (COM(2016) 176 final, 2016), Dijital Tek Market'in tamamlanması için kritik olan standartlaşmaya yönelik stratejik ve politik yaklaşımlar ortaya konmuştur. Bilgi ve iletişim teknolojileri hususunda, Avrupa Parlamentosu

2019 tarihli JURI komitesi için derinlemesine analiz raporunda (McDonagh & Bonadio, 2019), SEP'leri bu alanda ve nesnelerin interneti alanlarında kritik olarak tanımlamış ve akıllı şehirler, trafik düzenlemeleri, kaynak yönetimi ve kamu sağlığı alanlarındaki önemi vurgulanmıştır.

SEP'ler, firmalar için ürünlerinin pazarda rekabet edebilmeleri ve teknoloji gelişiminde söz sahibi olmaları açısından gereklidir ve aynı zamanda maliyetlere de kayda değer etkileri bulunmaktadır. Sektörde bir standart kabul edildiği zaman sektördeki tüm üreticilerin bu standardı uygulaması gerekmektedir ve buna yönelik yatırım yapmaktadırlar, bunun sonucunda standart dışı alternatif bir teknolojinin uygulanması hem katlanılan maliyet açısından hem de ürünlerin pazarda standart dışı kalacak olmasından dolayı çoğu zaman oldukça zordur. SEP kullanıcılarının bu bağımlılığı, SEP sahipleri için lisans şartlarının belirlenmesinde avantajlı bir durum oluşturmaktadır. SEP sahipleri bu avantajlarını kötüye kullanarak lisans vermeyi reddederek karşı tarafı pazar dışında bırakabilirler, adil olmayan lisans şartları öne sürebilirler veya ihtiyati tedbir kararı aldırabilirler.

SEP sahibinin tekel oluşturmaya sebep olabilecek bu tarz durumların önüne geçilmesi amacıyla, Standart Geliştiren Organizasyonlar (SGO'lar) tarafından, “*adil, makul ve ayrımcı olmayan*”(FRAND) koşullarda lisans vereceklerine dair taahhüt vermeleri istenmektedir. Ancak, lisans anlaşmaları, koşulları sadece lisans alan ve lisans veren tarafından belirlenen anlaşmalar olduğundan ve genellikle gizlilik içerdiğinden, FRAND hususları için bir kural bulunmamakta, bu hususlar taraflarca belirlenmekte, ayrıca üçüncü kişiler tarafından denetlenmemektedir; ancak uygulamada yaşanan sorunların çözümü açısından ilerleyen süreçlerde bu durum değişebilir. FRAND'lerle ilgili konuların net olmaması ve emsallerin gizlilik içermesi sebebiyle ulaşılabilir olmaması kaynaklı pek çok uyuşmazlık yaşanmaktadır.

AB'de FRAND şartlarının nasıl belirleneceğine dair bir düzenleme yer almamaktadır. Avrupa Komisyonu FRAND şartlarının değerlendirmesini üye ülke mahkemelerine bırakmakta, ABAD ise kararlarında FRAND'e ilişkin herhangi bir yorumda bulunmamaktadır. Bununla birlikte, üye ülke mahkemelerinde, uygun FRAND şartlarının belirlenmesinde hangi metodun kullanılacağına yönelik ortak bir uygulama

bulunmamaktadır; buna bağı olarak farklı mahkemeler tarafından verilen kararlar arasında sıklıkla uyuşmazlıklara rastlanmaktadır. Diğer taraftan, AB üye ülke mahkemeleri maddi olarak FRAND şartlarının hükmedilmesi konusunda çekimser kalmaktadır (İngiltere mahkemeleri maddi olarak FRAND şartlarını belirleyebilmektedirler); bunun yerine davada bahsi geçen lisans şartlarının FRAND koşullarını sağlayıp sağlamadığı değerlendirilmektedir.

SEP'lerin sahibine sağladığı bu avantajlı durumlardan ötürü ve SEP sahiplerinin bir nevi tekel gücünü ellerinde bulundurmaları sebebiyle, SEP'lerin, fikri haklara ilişkin düzenlemelerin yanı sıra rekabet kuralları kapsamında da değerlendirilmeleri gerekmektedir. Fakat SEP sahibi olmak, doğrudan pazarda hâkim durumda olmayı gerektirmez ve rekabete ilişkin diğer konularda olduğu gibi ilgili olayın detaylarının incelenmesi sonucu ortaya çıkabilmektedir. SEP davalarının pek çoğunun SEP sahibinin hâkim durumunu kötüye kullanması ile ilgili olduğu görülmektedir. Rekabet hukukunun konusunu oluşturan bu davaların dışında uyuşmazlıklara sebep olan konular lisans şartlarında anlaşmazlıklar (lisans koşullarının FRAND koşullarını sağlamaması), teknoloji kullanıcılarının patent ihlali yapmasıdır.

Standarta esas olmayan patentlerin aksine, SEP davalarında, patentin geçerli olması ihtiyati tedbir kararı için yeterli bir şart değildir, mahkemeler aynı zamanda patent sahibinin FRAND taahhüdünü de değerlendirmektedirler. Bu konuyla ilgili ABAD'ın *Huawei v ZTE* kararı (Judgment of 16.7.2015 - Case C-170/13, 2015), SEP davalarında takip edilmesi gereken kuralları ortaya koymaktadır. Bu karara göre:

- SEP sahibi, mahkeme emri talep etmeden önce, ihlal isnat edilen tarafa, ihlale konu olan SEP'i ve ihlalin ne şekilde gerçekleştiğini belirterek uyarıda bulunmalıdır. İhlal isnat edilen taraf, FRAND hükümleri uyarınca lisans anlaşması yapma hususunda gönüllü olduğunu açıklamasının ardından, SEP sahibi, özellikle lisans ücreti ve nasıl hesaplandığının belirtildiği lisans şartlarının yer aldığı teklifi, yazılı ve ihlal isnat edilen tarafa özel bir şekilde sunmalıdır.
- İhlal isnat edilen taraf, bahsi geçen lisans teklifine, erteleme taktiklerine başvurmaksızın iyi niyet kapsamında özenli bir şekilde karşılık vermelidir.

İhlal isnat edilen taraf, sunulan lisans teklifini kabul etmezse, ivedi bir şekilde yazılı olarak FRAND şartlarına uygun olarak hazırladığı karşı teklifini sunmalıdır. Eğer SEP sahibi sunulan karşı teklifi kabul etmezse, ihlal isnat edilen taraf, bu andan itibaren olacak SEP kullanımları ve geçmiş kullanımlarına ilişkin bir güvence hesabı temin etmelidir. Taraflar, ihlal isnat edilen tarafın karşı teklifi sonucunda FRAND hükümlerinde uzlaşmaya varamazlarsa, ortak karar ile lisans bedelinin tayini hususunda üçüncü bir tarafın görüşünü talep edebilirler.

- SGO'lar SEP'lerin geçerliliği ve esaslılığına yönelik herhangi bir kontrol işlemi gerçekleştirmediğinden, ihlal isnat edilen taraf patentlerin geçerliliğini/esaslılığını sorguladığı veya bu hakkını gelecek için saklı tuttuğundan ötürü eleştirilemez veya bu sebeple yaptırıma tabi tutulamaz.

ABAD'ın *Huawei v ZTE* kararından önce AB üye devlet mahkemelerinin SEP'lerle ilgili kararlarında pek çok yaklaşım ve karar farklılıkları bulunmaktaydı. ABAD kararı, SEP sahibi lehine ihtiyati tedbir kararı alınabilmesi için gerekli koşullar hakkında kuralları belirlemiş olsa da, konuyla ilgili hala net olmayan ve üye ülke mahkemelerinin yorumuna bırakılan hususlar bulunmaktadır. Bu hususlar, ihlal isnat edilen tarafa ilişkin “gönüllülük”, “iyi niyet” ve “özenli karşılık” unsurlarıdır. Bu açıklık niteliğinden yoksun kavramlar, üye devlet mahkemeleri arasında farklı yorumlara ve kararlara sebep olmaktadır.

SEP'lere ilişkin uyuşmazlıkların hem patent hakları hem de rekabet kuralları çerçevesinde incelenmesi gerekirken, AB'de ortaya çıkan bir diğer durum, rekabet hakları AB hukuku çerçevesinde korunurken, patent hakları üye devletlerin kendi hukukları kapsamında korunmasıdır. Dolayısıyla AB kurumlarının (Avrupa Komisyonu ve ABAD) kararları incelendiğinde, rekabete yönelik hükümler açıkken patent korumasına yönelik hükümlerin üye devletlerin yorumlarına açık bırakıldığı görülmektedir. Bu sebepten Komisyon ve ABAD, SEP'lerin patent koruması dâhiline giren konularda çok detaylı görüş verebilecek pozisyonda değildir.

Bu alanda Birleşik Patent Mahkemesi (Unified Patent Court)'nin faaliyetlerine başlaması SEP'lerin patent haklarını ilgilendiren alanlarında kararların tek bir

mahkeme tarafından verilecek olmasını beraberinde getirecektir ve buna bağı olarak kararlarda uyumun sağılanması beklenmektedir. Birleşik Patent Mahkemesi 1 Haziran 2023'te yürürlüğe girecek olup, SEP ihlali ve geçerlilik davalarında daha uyumlu bir içtihat hukuku oluşturulmasına katkı sağılaması beklenirken aynı zamanda farklı yerlerde görülen davalardan kaynaklı yüksek maliyetler, risk ve karmaşıklığın da önüne geçecektir. Birleşik Patent Mahkemesi FRAND uyuşmazlıklarına yönelik de farklı yaklaşımların tartışılması için bir fırsat sunabilir.

Avrupa Birliğinin İşleyişi Hakkında Antlaşma (TFEU) kapsamında, AB'nin iç marketin işleyişine yönelik rekabet kurallarına ilişkin münhasır yetkileri bulunmaktadır ve bu bağlamda Avrupa Komisyonu'nun AB rekabet kurallarını tatbiki yetkisi bulunmaktadır. SEP'lerin rekabet kurallarını ilgilendiren kısımları da olması sebebiyle, Komisyon, SEP'lere ilişkin soruşturmalar yönetmiştir. Bahsi geçen soruşturmalar şu şekilde gruplandırılabilir (gruplar arasında kesişen konular olabilmektedir):

- Patent havuzu davaları: Digital Versatile Disc Standard Patent Licensing Group, 3G Patent Platform
- FRAND yükümlölüklerinin transferi davaları: IPCom
- Patent tuzağı davası: Rambus Inc.
- Hakim durumun kötüye kullanılması davaları: Qualcomm Inc., Samsung Enforcement of UMTS standards, Motorola Enforcement of GPRS SEPs, Motorola – Enforcement of ITU/ISO/IEC and IEEE SEPs
- Birleşme anlaşması davası: Google/Motorola Mobility Merger

Bu davalarda genel olarak Komisyon'un yaklaşımı birkaç ana başlıkta özetlenebilir. Şartları rekabet kurallarına aykırı olmadıkları sürece Komisyon patent havuzlarını destekleyici bir tavır sergilemektedir. SEP'e konu patent haklarının üçüncü taraflara transferi halinde, SEP'in ilk sahibi tarafından taahhüt edilen FRAND yükümlölüklerinin de yeni sahibe transfer edilmesi gerekmektedir. Komisyon, ihtiyati tedbirin patent hakkı kapsamında bir gereklilik olduğunu savunmakta ancak bu uygulamanın hâkim durumu kötüye kullanma şeklinde olmaması gerektiğini vurgulamaktadır.

Komisyon’a göre potansiyel lisans alan, FRAND çerçevesinde anlaşma yapmaya gönüllü ise, SEP sahibinin ihtiyati tedbir davası açması, TFEU Madde 102’ye göre hâkim durumun kötüye kullanılması kapsamında değerlendirilebilir. “Gönüllülük” ve FRAND şartları her dava için davanın kendi özelinde değerlendirilmelidir. Komisyon SEP’lerin geçerlilik veya ihlali konularında herhangi bir yorumda bulunmamaktadır; zira bu konular üye devletlerin kendi hukukları çerçevesinde değerlendirilmektedir. Ayrıca, Komisyon’un FRAND şartlarının maddi olarak belirlenmesine yönelik çalışmaları yoktur, Komisyon, uyuşmazlıklarda FRAND tespiti için mahkemeler veya arabulucuların daha uygun merciler olduğunu belirtmektedir.

Üye devletlerin ulusal mahkemeleri, SEP davalarına yönelik, AB Kanunu’na uyumlu olduğu sürece kendi ulusal hukukları çerçevesinde değerlendirme yapmaktadırlar. Avrupa Patent Anlaşması ve Avrupa Patent Ofisi (EPO), patent konularında anlaşmazlık hallerinde tarafları, davanın açılacağı yerin belirlenmesi konusunda serbest bırakmıştır, dolayısıyla taraflar patent davalarını istedikleri ülkede açabilmektedirler. Bu durum çoğu kez tarafların stratejik olarak dava yerini belirlemelerini beraberinde getirmektedir. Dava konusuna bağlı olarak kimi ulusal mahkemeler, taraflar açısından avantajlı olabilmektedir; şöyle ki, örneğin Alman mahkemelerinin patent sahipleri tarafından daha fazla tercih edildikleri görülmektedir. Bunun sebeplerinden biri maliyet açısından nispeten daha avantajlı olmaları, diğeri yetkinliklerinin fazla olması iken bir diğer ve tercih edilmelerindeki önemli sebep, Alman mahkemelerinin ağırlıklı olarak patent sahibi lehine ihtiyati tedbir kararları almalarıdır. Bu durumun, Almanya’nın genel olarak patent haklarını ve araştırma ve geliştirmeyi destekleyici politikalarının bir sonucu olduğu söylenebilir.

SEP davalarının yol açtığı, yukarıda bahsedilen olumsuzluklardan bazıları dava süreçlerinin oldukça uzun ve maliyetli olmasından kaynaklanmaktadır. Arabuluculuk gibi alternatif uyuşmazlık çözüm yöntemlerinin SEP’ler için uygulamaya konulması hem mahkemelerdeki iş yükünün azalmasına hem de SEP uyuşmazlıklarının daha hızlı çözüme kavuşturulmasını sağlayacaktır. Komisyon bu tarz bir uyuşmazlık çözüm yönteminin farklı ülkelerde uyumlu şekilde yürütülmesine dair denetleyici görev üstlenebilir.

SEP'ler konusundaki bir diğerk problem, olduğundan fazla beyan edilen SEP'lerdir; bu durum standart uygulayıcılarının gereksiz yere fazla lisans bedeli ödemelerine sebep olmaktadır. Goodman and Myers (2005)'in yaptığı bir çalışmada üçüncü nesil hücresel teknolojiler için SEP olarak bildirilen patentlerden sadece %21'inin gerçekten standardın uygulanması için gerekli olduğu tespit edilmiştir. Bunun sebebi, SEP'lere yönelik şeffaf ve kontrol edilebilir bir sistemin bulunmamasıdır. AB'nin 2017 tarihli belgesinde de (COM(2017) 712 final, 2017) belirtildiği üzere SEP'ler konusunda şeffaflık, geçerlilik ve esaslılık kontrollerinin yapılması aciliyet gerektiren bir konudur; ancak 2017 yılından bu yana bu konularda kayda değer bir ilerlemenin olduğunu söylemek zordur.

Mevcut SEP sisteminde, patent veya patent başvurusu sahipleri standarda konu olabilecek patentlerini standardın belirlenmesinden önce SGO'lara bildirmektedirler (Bazı SGO'lar bu bilgiyi talep ederken bazıları talep etmemektedir; bu konuda da uygulama birliği bulunmamaktadır). Bildirilen patent (başvuruları) standart belirleme sürecinde veya sonrasında değişikliğe uğrayabilmekte veya geçersiz hale gelebilmektedirler ancak SGO'lardaki bildirimler takip edilmemekte ve güncellenmemektedir; buna bağlı olarak da belirlenen standartla ilgili patentler konusunda büyük çapta belirsizlikler meydana gelmektedir. Bu belirsizliğin giderilmesi için SGO'lar EPO, ulusal patent ofisleri ve diğer patent organizasyonları bir arada çalışarak gerekli güncellemelerin yapılabilirdiği şeffaf bir ortam sağlanmalı, standart uygulayıcılarının gerçekten gerekli SEP'leri tespit etmelerine olanak sağlanmalıdır.

Bazı lisans sözleşmelerine, SEP sahipleri tarafından "ilgili SEP'in geçerliliğinin/esaslılığının sorgulanması halinde sözleşmenin feshi" hükmü eklenmektedir. ABAD, *Huawei v ZTE* kararında bu hükmün rekabet kurallarına aykırı olduğunu açık bir şekilde belirtmiş ve potansiyel lisans alan tarafın SEP'le ilgili geçerlilik/esaslılık ve ihlal konularında soruşturmaya gidebileceğini hükmetmiştir.

SEP'lerin lisanslanmasına ilişkin diğerk tartışmalı konu lisans anlaşmalarının tedarik zincirinin hangi aşamasında yapılması gerektiği ve ödenecek telif için hangi aşamadaki ürünün esas alınması gerektiğine yöneliktir (telif, ilgili SEP'in kullanıldığı

en küçük parça esas alınarak mı belirlenmeli yoksa son ürün mü baz alınmalıdır?). Düsseldorf Bölge Mahkemesi *Nokia v Daimler* davası kapsamında bu konularla ilgili 2020 yılında ABAD'a başvuruda bulunmuştu ancak ABAD henüz kararını bildirmeden tarafların uzlaşmaya varmaları sonucunda, ABAD davayı herhangi bir hükme bağlamadan kaldırma kararı aldı. Dolayısıyla, bahsi geçen konular AB'de halen tartışmalı olan uygulama birliğinden yoksun konular olmaya devam etmektedir.

SEP'ler konusunda AB düzenlemeleri ve uygulamaları incelendiğinde, ilk olarak, mevcut sorunların çözümünü amaçlayan kapsayıcı bir SEP politikası geliştirilmesine ihtiyaç olduğu görülmektedir. Komisyon kararları daha çok dava özelinde değerlendirmeler sunmakta ve genellemeler için yetersiz kalmaktadır. ABAD kararı ise SEP'lerle ilgili, SEP sahibinin ihtiyati tedbir davası açmasının hangi hallerde hâkim durumu kötüye kullanma olarak değerlendirilebileceği hususunda bir miktar açıklık getiriyor olsa da halen pek çok konu ile ilgili belirsizlik devam etmektedir. Ayrıca üye devlet hukukuna tabi olan patent haklarına ilişkin konularda uygulama birliği sağlanamamaktadır.

AB'de ikincil hukuk kaynaklarından Yatay İşbirliği Anlaşmaları Kılavuzu (Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements) (2011/C 11/01) SEP'lere ilişkin bazı düzenleyici hükümler sunsa da, uygulamada yaşanan problemler ve uyuşmazlıklara hukuki çözüm sunma aşamasında yetersiz kalmaktadır.

Patent havuzları, tek adımda standarda ilişkin pek çok patentin bir arada lisanslanmasına olanak sunmasından dolayı işlem maliyetlerini azaltmaktadır. Patent havuzları hem içeriğinin doğruluğunun tespiti hem de rekabet yönünden AB Komisyonu da dâhil olmak üzere pek çok denetimden geçmektedir. Bu sebeple standart uygulayıcılarına güvenli bir ortam sunmaktadır. Komisyon da SEP'ler konusunda, patent havuzu uygulamalarını desteklemektedir. İlerleyen dönemlerde patent havuzlarının yaygınlaşmasına yönelik AB'de düzenlemeler yapılarak, SEP'lerle ilgili belirsizlik kaynaklı pek çok sorun için iyileştirme sağlanabilir.

SEP'lere ilişkin SEP sahipleri ve kullanıcıları arasında yaşanan uyuşmazlıklara ek olarak, SEP konusu, AB ve Çin arasında uluslararası bir anlaşmazlığa da sebep

olmuştur. Şöyle ki, SEP'e ilişkin davalar aynı anda pek çok farklı yerlerde açılabilmekte ve bu davalar sonucu verilen kararlarda uyumsuzluk olması halinde uygulamada sorunlar yaşanabilmektedir; bu durumun önlenmesi amacıyla “*karşı dava emirleri*” (anti-suit injunctions – ASI) uygulaması başlatılmıştır. Fakat son dönemde Çin mahkemeleri ASI hükümlerini Çin firmaları lehine sıklıkla uygulamakta ve bu sayede AB üye ülkelerindeki mahkemeler tarafından alınan ihtiyati tedbir kararlarının yürürlüğe konmalarını engellemektedir. Bu durum SEP sahibi firmaları olumsuz etkilemekte ve genel anlamda AB’de teknolojinin uygulanması, gelişimi, pazar rekabeti ve ekonomik anlamda olumsuz yansımaları görülmektedir. Bu sebeple, Avrupa Komisyonu, Dünya Ticaret Örgütü’ne, Çin’in Ticaretle Bağlantılı Fikri Mülkiyet Anlaşması (TRIPS) hükümlerine aykırı hareket ettiği gerekçesiyle, Çin aleyhinde dava açmıştır. Dava henüz sonuçlanmamıştır ancak ASI uygulamasının beklentiye karşılamadığı ve geline nokta amacından saparak SEP kullanıcıları için haksız avantaj sağlayacak şekilde, SEP’lerin ihlalini mümkün kılacak ya da ihlal sürecini uzatacak şekilde, kötü niyetli kullanımlara sebep olduğu görülmektedir.

Son olarak, tez kapsamında Türkiye’de SEP’lerin durumu incelenmiştir. Türkiye’de SEP’ler endüstri, kamu kurumları ve üniversiteler tarafından son zamanlarda önemi yeni anlaşılmaya başlanan bir konu olarak ortaya çıkmaktadır ve bilinç düzeyinin artırılması ve etkin işleyişe sahip olmaları için çalışmalar yapılması gerekmektedir.

Türkiye’deki şirketler henüz sadece SEP kullanıcısı konumundadırlar ve teknoloji geliştirici pozisyona gelmeleri için teşvik sistemlerine ihtiyaç bulunmaktadır. Türk şirketlerinin, kamu ve özel sektör kuruluşları ile sivil toplum kuruluşlarının standart geliştirme faaliyetlerine katılımı oldukça sınırlı düzeyde ve genelde gözlemci seviyesinde bulunmaktadır. Uzun vadeli planlar yapılarak, standart geliştirme faaliyetlerinde daha etkin katılımların sağlanması ve Türk buluşçuları tarafından geliştirilen teknolojilerin standartlara dâhil edilebilmesine yönelik çalışmalar yapılmalıdır. Bu bağlamda, Türk Patent ve Marka Kurumu ile Türk Standartları Enstitüsü konuyla ilgili bir stratejik plan hazırlayarak, standart otoritelerince kabul edilebilecek seviyede patentlerin oluşması ve bunların standartlara dahil edilmesi yönünde çalışmalar yapabilirler.

Ulusal patentlerin standartlara dahil edilmesinin ekonomik etkilerinin olmasının yanı sıra, teknoloji geliřtirmede etkili bir aktör olunduğunun göstergesi olması sebebiyle ülke saygınlığını artırması alanında da faydaları bulunmaktadır. Bu doğrultuda, ilerleyen dönemlerde, standartlara dahil olacak patentlerin sahiplerine yönelik destekleyici hukuki düzenlemeler getirilebilir.

AB'deki SEP'ler konusundaki gelişmelerin takip edilmesi ve bu alanda çalışmalar yapılması, Türkiye'nin AB katılım müzakereleri kapsamında da önem arz etmektedir. Zira SEP'ler özellikle altı fasıl için yüksek önem arz etmektedir, bunlar: malların serbest dolaşımı, sınai mülkiyet hukuku, rekabet politikası, dijital dönüşüm ve medya, Trans-Avrupa ağları ve bilim ve araştırma.

Vestel v Koninklijke Philips N.V. davası Türkiye'deki ilk SEP davası olsa da 5G ve nesnelerin interneti gibi teknolojik gelişmeler sonucu SEP'lerin daha yaygın olarak kullanılması ve alandaki tarafların artması, anlaşmazlıkları ve dolayısıyla ilgili davaları beraberinde getirecektir. Buna bağılı olarak, ilerleyen süreçte karmaşık bir SEP ortamının önüne geçilebilmesi adına anlaşmazlıkları azaltıcı önlemler alınması gerekmektedir. Mahkemelerin bu davalara hazırlıklı hale gelmeleri, SEP'lerle ilgili süreçleri kolaylaştıracaktır. SEP'lerle ilgili anlaşmazlıklar için alternatif uyuşmazlık çözüm sistemleri geliştirilebilir. Gelecekte Türk mahkemeleri FRAND değerlemesine yönelik çalışmalar yapabilir ve bu sayede uluslararası alanda FRAND davaları için bir odak noktası haline gelebilirler. Tüm bunların gerçekleştirilmesine yönelik insan gücüne ihtiyaç olduğu açıktır.

SEP'lere yönelik hedeflerin gerçekleştirilmesi için, uzun vadeli iyi kurgulanmış stratejik planlara ihtiyaç bulunmaktadır. Bu konuda TÜSİAD Teknoloji Standartları ve Standarda esas Patentler Görev Gücü tarafından hazırlanan Yol Haritası konuyla ilgili katkı sağlama yönünde önemli bir adım olmuştur. Türk Patent ve Marka Kurumu, Türk Standartları Enstitüsü, Bilgi Teknolojileri ve İletişim Kurumu, üniversiteler, özel sektör ve diğery paydaşların ortak katılımıyla Türkiye'de SEP'lere yönelik çalışmaların yapılması gerekmektedir.

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