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The Florence School of Regulation

WORKING PAPER

**Position Statement on the European
Commission's Call for Evidence for an
Impact Assessment on Standard-Essential
Patents**

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Abstract

On 14th February 2022, the European Commission published a 'Call for evidence for an impact assessment' (Call for Evidence) and Public Consultation related to a new framework for standard-essential patents (SEPs). The Florence School of Regulation: Area Communications & Media (FSR C&M) of the European University Institute (EUI) is thankful for the opportunity to provide its feedback. Our team of researchers has significant research, policy and training experience in the areas of telecommunications regulation, standardisation and EU competition policy. In this paper, we focus on four specific points raised by the Call for Evidence: 1) the necessity and proportionality of any SEP licensing policy measure; 2) the measures that increase the transparency of the SEP landscape; 3) the optimal level of licensing in the production chain; 4) the alternative dispute resolution mechanisms for Fair, Reasonable and Non-Discriminatory (FRAND) licenses. Our contribution aims to be a catalyst for the debate about the appropriate SEP licensing framework.

Keywords

SEP, FRAND, standards, innovation, regulation

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Introduction

Florence, 5th May 2022¹

On 14th February 2022, the European Commission published a 'Call for evidence for an impact assessment' (Call for Evidence) and Public Consultation related to a new framework for standard-essential patents (SEPs). [The Florence School of Regulation: Area Communications & Media](#) (FSR C&M) of the [European University Institute](#) (EUI) is thankful for the opportunity to provide its feedback. Our team of researchers has significant research, policy and training experience in the areas of telecommunications regulation, standardisation and EU competition policy.

In this paper, we would like to focus on four specific points raised by the Call for Evidence:

1. the necessity and proportionality of any SEP licensing policy measure;
2. the measures that increase the transparency of the SEP landscape;
3. the optimal level of licensing in the production chain;
4. the alternative dispute resolution mechanisms for Fair, Reasonable and Non-Discriminatory (FRAND) licenses.

Our contribution aims to be a catalyst for the debate about the appropriate SEP licensing framework. The team of FSR C&M remains at the Commission's disposal for any further questions.

1. The necessity and proportionality of any SEP licensing policy measures

The Call for Evidence suggests that inefficient licensing of SEPs may be affecting both SEP owners and implementers.² Examples of such licensing inefficiencies are said to be: 'hold-up', 'hold-out', and 'forum shopping'. Such phenomena "may slow the pace of innovation, hamper development in critical technologies, and delay the scaling up of start-ups and SMEs in the EU".³ To tackle these possible SEP licensing inefficiencies, the Commission envisages three broad policy actions: i) enhancing transparency on SEPs data by improving publicly available information and introducing independent assessments of standard-essentiality; ii) clarifying various aspects of FRAND licensing through guidelines and iii) improving the effectiveness and efficiency of enforcement also using alternative dispute resolutions (ADRs).⁴

The FSR C&M very much welcomes the European Commission's recognition of the need for evidence, especially empirical, in this area. We share the Commission's view that the necessity and proportionality of any public intervention should rely on robust evidence identifying actual market failure(s) or inefficiencies that may be harmful to innovation in general and information and communications technology (ICT) standardisation in particular.

We would like to stress the importance of a flexible and balanced legal framework to support our delicate open standardisation systems. Otherwise, if participation in open standardisation becomes too costly or does not ensure adequate incentives to all participants, companies may decide to switch to other, less inclusive, organizational forms, such as vertical integration or closed platforms.⁵ Voluntary, transparent and consensus-based standardisation systems require both the supply and demand sides of technology markets. The inherently vague FRAND licensing commitments made such bipartisan participation possible for over thirty years: they ensure non-discriminatory access to the standard to implementers while, at the same time, providing fair and reasonable remuneration to SEP holders.

¹ This Position Statement presents the views only of the FSR – C&M programme and doesn't involve other programmes or the EUI. All websites are accessed as of 5 May 2022.

² Call for Evidence, p. 2.

³ Ibid.

⁴ Ibid, p. 4.

⁵ Parcu, Carrozza, Solidoro (2020).

In practice, parties can disagree on the amount of FRAND, namely on how to share the returns from the standardisation investments. However, such disagreements can be settled only ex-post as the scope, applications and market acceptance of standards become clearer.⁶ Any public intervention that ex-ante sets the level and scope of FRAND licensing commitments and tilts their balance in favour of either the supply side or demand side of standard-technology markets risks jeopardising the other side's participation in the open standardisation system. The disadvantaged technology market side can opt-out of standardisation in favour of other innovation systems, which are not necessarily better than open standardisation and have their own market problems. For example, the gatekeeping role of large digital platforms has been recognised in the proposed Digital Markets Act for giving rise to severe contestability and fairness issues in platform systems.⁷

Having stressed the importance of flexible and balanced rules for successful standardisation, we next provide our understanding of the literature and evidence on the patent hold-up, hold-out and forum shopping in the SEP licensing.

1.1. The literature and available evidence on patent hold-up and hold-out

In the standardisation context, **patent hold-up** refers to a situation where SEP holders wait until the patent is included in a standard and implementers are locked-in producing standard-compliant products, and then charge excessive licensing fees and demand other more onerous licensing terms than they could have negotiated ex-ante before the technology was made part of the standard.⁸ The availability of injunctions or even the threat of requesting preliminary injunctions are said to magnify patent holdup, as implementers may be required to stop selling downstream products if they infringe even one out of thousands of complementary patents, such as SEPs for a given standard.⁹ Accordingly, SEP-related patent holdup is concerned with the potential ex-post opportunism of SEP holders demanding excessive royalties once their technology becomes a part of the standard.

A related phenomenon is royalty stacking, a situation where royalties may stack up if implementers would have to pay licences to all SEP owners and become excessive in the aggregate.¹⁰ Royalty stacking is said to be magnified in the presence of hold-up when implementers would have to pay individually excessive licensing rates, but it can occur even without hold-up because the sheer number of licences needed to be concluded may make cumulative licensing costs excessively high.

Patent hold-out refers to a free-riding situation where patent infringers avoid and delay licensing as much as possible in order to pressure SEP holders to settle for suboptimal rates or evade paying any royalties altogether. This strategy may be possible because patentees cannot preclude infringers not accepting licenses from using their proprietary technologies but must seek the protection of their rights before courts, and only after a lengthy court procedure they may stop the unlicensed use of their technology. The negative effects of systematic holdout are the under-compensation of SEP holders for the use of their technologies, which diminishes incentives to innovate and invest in the development of new standardised technologies.¹¹ Below we examine the available evidence on these phenomena that has accumulated over the years.

6 Possible mechanisms to improve/integrate ex-ante FRAND contracts, through clauses of ex-post updating to market realizations, have been studied but have never been experimented, see Parcu, Silei (2020).

7 Proposal for a Regulation of the European Parliament and of the Council on contestable and fair markets in the digital sector (Digital Markets Act) COM(2020) 842 final.

8 Lemley, Shapiro (2007). For literature on patent hold-up see also, Shapiro (2001); Farrell et al (2007); Cotter (2009); Lichtman (2010); Shapiro (2010); Carlton, Shampine (2013); Lemley, Shapiro (2013); Melamed, Lee (2016); Melamed, Shapiro (2018); Contreras (2019); Shapiro, Lemley (2020).

9 Lemley (2007), 167 ("Denying such [injunctive] relief is the most powerful way to prevent patent holdup").

10 Royalty stacking might lead to the so-called "tragedy of the anti-commons", namely the underuse of a resource due to fragmented and mutually blocking ownerships; see Lemley, Shapiro (2007); Heller (1998).

11 For the literature on hold-out, see Angwenyi (2017); Heiden, Petit (2018); Epstein, Noroozi (2018); Galetovic, Haber, Zaretzki (2018); Sidak (2018); Werden, Froeb (2019); Spulber (2020); Nikolic (Hart Publishing 2021).

The patent hold-up issue is said to be especially pronounced in the smartphone industry. The negative effects were predicted to result in: i) increased prices and less variety of standard-implementing products; ii) excessively high royalties leading to exit from the standard-implementing products markets and subsequent market concentration and iii) reduced investment in research and development.¹²

Nonetheless, several studies have demonstrated that the smartphone industry is functioning particularly well, with year-to-year increased output, lower prices, increased market entry and billions of euros of investments in research and development (R&D) for connectivity standards and the roll-out of new network infrastructures.¹³ For example, the latest estimate for the mobile economy in 2021 is 8.3 billion SIM connections, 4.2 billion mobile internet subscribers, contributing \$4.5 trillion or 5% of global gross domestic product and supporting directly and indirectly 26 million jobs.¹⁴ In Europe, subscriber penetration is 87%, and smartphone adoption is 83%.¹⁵ By 2035 the impact of 5G is predicted to grow to \$13.2 trillion in global economic output, and the global 5G value chain will generate \$3.6 trillion in economic output.¹⁶ By 2030, 5G is projected to boost a range of industries, from healthcare (\$530 billion), smart utilities (\$330 billion), consumer and media applications (\$254 billion), industrial manufacturing (\$134 billion) to financial services applications (\$85 billion).¹⁷ In comparison, the total estimated revenue from cellular SEP licensing is estimated to be less than 0.5% of the size of the mobile economy.¹⁸ Other studies found that the cumulative royalty yield of 2G, 3G and 4G SEPs is only 3.4% of the smartphone's average selling price, or just \$9.60.¹⁹

It should also be emphasised that the successful development of standardised technologies requires significant investments over many years. Studies show that companies in the mobile value chain invested \$1.8 trillion in infrastructure and R&D from 2009 through 2013,²⁰ while network operators are expected to invest \$620 billion in 5G roll-out between 2022 and 2025.²¹ Standardisation is a trial-and-error process. For example, to develop 3G and 4G standards, companies submitted 262,773 technical contributions, out of which only less than 17% (43,917) were selected to become part of the standards.²² Just in 2018, more than 110,000 standard contributions were received,²³ while engineers spent millions of working hours at standardisation meetings.²⁴

In the smartphone industry, the negative predictions of the patent hold-up theory probably failed to materialise because of two main factors: i) the effectiveness of FRAND licensing commitments and ii) EU competition law oversight over SEP holders' practices. First and foremost, the FRAND licensing commitment is the keystone of the open standardisation process. Patentees agree to license their standard-essential patents on fair-reasonable and non-discriminatory terms in exchange for their inclusion into the open standards. If the FRAND commitment is interpreted as contractual in nature and binding on the SEP owners, as some courts have done,²⁵ then implementers can hold SEP owners accountable and sue for breach-of-FRAND terms if they believe the SEP owner has made them a non-FRAND offer.

12 Lemley, Shapiro (2007), 2010ff.

13 For some of the voluminous literature see: Galetovic, Haber, Levine (2015); Sidak (2015); Mallinson (2016); Teece (2017); Galetovic, Haber (2017); Galetovic, Haber, Zaretzki (2018); Galetovic, Gupta (2020); Spulber (2020).

14 GSMA (2022).

15 Ibid.

16 IHS Markit (2019).

17 PWC (2021).

18 Heiden, Padilla, Peters (2021).

19 Galetovic, Haber, Zaretzki (2018); Galetovic, Haber, Zaretzki (2018b); Mallinson (2015); Sidak (2016).

20 Bock et al (2015), 4.

21 GSMA (2022), 16.

22 Signals Research Group (2015), 8.

23 Ericsson (November 2020), 4.

24 Baron, Gupta (2018); Heiden (2020).

25 *Unwired Planet v Huawei* [2017] EWHC 2988 (Pat).

Second, EU competition law constrains SEP holders' multilateral and unilateral practices.²⁶ In particular, the CJEU's *Huawei v ZTE* preliminary ruling governs the availability of injunctions for the infringement of FRAND-encumbered SEPs.²⁷ It prevents dominant SEP owners from obtaining injunctions against infringers that are negotiating in good-faith and are willing to take a FRAND license. Thus, EU law guarantees that implementers that are considered willing licensees and have been offered a license on FRAND terms cannot be excluded from the market.

Also regarding hold-out, the empirical evidence on the success of the smartphone industry seems to show that the most negative consequences of lower R&D and diminished participation in standardisation have not materialised.

Prospectively, SEP licensing through patent pools may further defuse patent hold-up risks in Internet of Things (IoT) industries. Patent pools offer one-stop-shop licensing efficiencies, reduce transaction costs and increase the predictability of the licensing environment for the benefit of innovation diffusion. For example, one study identified no fewer than fifty patent pools relating to digital disks and audio-video standards, run mainly by a few independent administrators.²⁸ Although patent pools for cellular standards had a slow start, the IoT environment incentivises broader SEP pooling because: i) the sheer numbers of new IoT industries and implementers without SEPs to cross-license are making individual bilateral licensing unfeasible because of high transaction costs; ii) the interests of SEP owners may converge as most of them will be vertically-disintegrated vis-à-vis diverse IoT implementations (i.e. upstream-only companies may more easily align their licensing incentives towards IoT pooling);²⁹ iii) the expected licensing revenues may overcome pools' unavoidable high start-up costs and any potential gains from bilateral licensing.³⁰ The extensive cellular SEP coverage of Avanci,³¹ a patent pool licensing 2G, 3G, 4G and soon 5G SEPs for connected vehicles and smart meters, shows that markets already appear to have produced pool solutions to overcome possible SEP licensing inefficiencies in the IoT.

In conclusion, while current market circumstances apparently speak against the claim that patent hold-up or hold-out may cause relevant inefficiencies and negative effects in SEP licensing in the smartphone sector, empirical evidence has not been systematically gathered. Due to the lack of systematic evidence concerning market failures in industries characterised by open standardization, the European Commission could consider using its investigatory powers to initiate a FRAND licenses sector inquiry under Art. 17 of Regulation 1/2003.³² The Commission could request information regarding the licensing agreements between SEP holders and implementers in a number of selected industries.

The obtained information could clarify SEP licensing issues starting from the amount of royalty rates and royalty bases in major connected industries, the customary patent licensing level in different IoT verticals, the real occurrence of patent hold-up and hold-out instances, the number of licensing negotiations that end up in court compared to those amicably concluded, the average content of FRAND licenses concluded at arm's length.

26 *Rambus* (Case COMP/38.636) Commission Decision 9 December 2009 (Summary 2010/C 30/09 OJ C/30/17) [2009]; *Google/Motorola Mobility* (Case COMP/M.6381) Commission Decision 13 February 2012 (C(2012)1068) OJ C75/1; *Motorola – Enforcement of GPRS standard essential patents* (Case AT.39985) Commission Decision 29 April 2014 (Summary OJ 2014C 344/6); *Samsung - Enforcement of UMTS standard essential patents* (Case AT.39939) Commission Decision 29 April 2014 (Summary OJ 2014/C 350/08). See also Botta (2021).

27 C-170/13 *Huawei v ZTE* EU:C:2015:477.

28 Baron, Pohlmann (2015).

29 Bekkers, West (2009).

30 Nikolic, Galli (2021).

31 <https://www.avanci.com>

32 Council Regulation (EC) 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Arts. 81 and 82 of the EC Treaty [2003] OJ L 1/1.

1.2 Procedural themes

Currently, European courts seem well equipped to apply the *Huawei v ZTE* framework and assess the behaviour of both SEP owners and implementers. However, since national courts of the EU Member States have extensively interpreted the *Huawei v ZTE* conditions, and since such jurisprudence is constantly evolving, the European Commission might consider providing some guidelines in this field.

The Commission may thus consider collecting best practices from European SEP litigation and produce guidelines on the willing licensee and licensor behaviour based on the current case law. Such guidelines may increase legal certainty on the parties' conduct and smoothen licensing negotiations, further reducing transaction costs and litigation instances. Not least, such guidelines may ensure the coherent interpretation of the *Huawei v ZTE* framework, avoiding divergent national or even sub-national court approaches.

Finally, while the *Huawei v ZTE* framework ensures that SEP owners are not able to hold-up implementers, it does not provide a satisfactory solution to disincentivise hold-out strategies. In theory, Art. 102 TFEU could proscribe unilateral patent hold-out strategies by implementers that are individually or collectively dominant on the buyer side of the relevant SEP technology markets,³³ whereas Art. 101 TFEU could limit multilateral hold-out strategies by coordinated implementers. In practice, even if an implementer is found to be an 'unwilling licensee' it is still entitled to a FRAND license, the same as implementers that negotiated in good faith and/or accepted a license without litigation. The situation leads to a paradoxical position, where implementers that delay licensing negotiations, negotiate in bad faith, and insist on litigation may be better off than companies that negotiate licences amicably without litigation and otherwise behave as a willing licensee. There is also an asymmetry between the SEP-holder and the implementer - if the SEP-holder does not comply with the *Huawei v ZTE framework*, it is punished severely by being denied an injunction. By contrast, there is no limit to how "unwilling" an implementer can be, as it can always be entitled to a FRAND license.

In order to address this imbalance in the licensing framework and incentivise good faith negotiations, the Commission could consider providing a non-binding interpretation that implementers that are found to be 'unwilling licensees' under the *Huawei v ZTE* case law would need to pay a higher royalty than willing licensees. In other words, an upward adjustment of royalties, especially for past infringements, should be provided against unwilling licensees. Such an option was discussed by the Commission's SEP Expert Group.³⁴ We believe such interpretation is acceptable from the perspective of the Direction of the Enforcement of Intellectual Property Rights and the principles of the FRAND commitment. In *Stowarzyszenie "Oławska Telewizja Kablowa"* the CJEU allowed the recovery of two times the hypothetical royalty since such a royalty alone was not capable of guaranteeing "all the loss actually suffered."³⁵ From the perspective of a FRAND commitment, it has been accepted that FRAND is a range and an unwilling licensee could be required to pay at the higher end of the range, while a willing licensee might be offered a rate towards the middle or lower end of the range. Finally, such an option would be compatible with the *Huawei v ZTE* case since the later ruling only refers to the request for an abusive injunction by a dominant SEP holder.

33 On the conditions for sanctioning collective dominance under Art. 102 TFEU, see T-342/99 *Airtours EU:T:2002:146*.

34 EC SEPs Expert Group (2021), 129-130; Nikolic, Galli (2021b).

35 C-367/15 *Stowarzyszenie "Oławska Telewizja Kablowa"* EU:C:2017:36, para 26.

1.3 Forum shopping

The Call for Evidence lists forum shopping as another possible factor for licensing inefficiencies. A distinction could be made between forum shopping that is: i) global, or ii) within the EU Member States.

Global forum shopping can result in a practice of requesting anti-suit injunctions (ASIs), interim orders from a national court requiring a party not to initiate or pursue legal action in a foreign country.³⁶ Because of the *lis pendens* rule in Art. 29 of the Brussels I Regulation, ASIs are not allowed among the Member States.³⁷ However, ASIs may be issued against non-EU jurisdictions; alternatively, a foreign jurisdiction could grant an ASI to block EU litigation. ASIs may be problematic from the perspective of international comity, the right to access courts, and property rights. Nonetheless, European courts seem to have found a practical solution to deal with them by issuing anti-anti-suit injunctions and holding that seeking an ASI in a foreign jurisdiction would be considered a sign of unwillingness to license.³⁸ Because of the geopolitical issues caused by ASIs and the extra-territorial reach of any related EU intervention, the Commission could closely monitor ongoing developments within public international law fora, such as the World Trade Organisation,³⁹ before assessing the opportunity of a policy initiative on ASIs.

Another aspect of forum shopping is parallel litigation within the EU Member States. Member States' commonalities in civil procedures, such as no juries, no punitive damages and the loser-pays principle, generally prevent sham litigation associated with forum shopping. Nonetheless, residual forum shopping problems stem from the domestic features of national patent litigation systems, harmonised only to a limited extent by the agreement on Trade-Related Aspects of Intellectual Property Rights and the Intellectual Property Rights Enforcement Directive.⁴⁰ Because of the room left for forum shopping within the EU, we may observe that SEP litigation is concentrated in a few jurisdictions whose rulings settle global disputes. Patentees often choose Germany for its bifurcated system, faster decision making and reasonable costs.⁴¹ The far-reaching effects of prompt interim remedies often settle patent infringement disputes. On the other hand, technology implementers may bring defensive litigation in the Member States that are prone to adjudicate patent validity before infringement or are considered slow in decision making. Both patentees and technology users may thus seek a favourable first litigation outcome as leverage to settle their global disputes.

Despite some signs of forum shopping practices among the Member States, we believe that, at this stage, it might be sufficient to monitor the situation before deciding to opt for a legislative intervention. First of all, patent litigation is rare, most licensing is resolved amicably without recourse to courts.⁴² Furthermore, any SEP-related policy against forum shopping should take into account the entry into force of the Unitary Patent and Unified Patent Court (UPC).⁴³ The Unitary Patent Package will significantly change the fragmented European patent enforcement landscape. At the moment, it is unclear whether it will reduce cross-border litigation costs, risks of diverging decisions and forum shopping strategies, or if it would complicate the patent enforcement and create new incentives for opportunistic litigation behaviour.

³⁶ For overview of ASI in SEP litigations see Nikolic (2022).

³⁷ Regulation (EU) 1215/2012 of the European Parliament and of the Council of 12 December 2012 on Jurisdiction and the Recognition and Enforcement of Judgments in Civil and Commercial Matters (recast) [2012] OJ L 351/1; C-159/02 *Turner v Grovit* EU:C:2004:228.

³⁸ *Interdigital v Xiaomi, Munich Regional Court, Case No. 7 o 14276/20* (25th February 2021).

³⁹ https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds611_e.htm

⁴⁰ Agreement on Trade-Related Aspects of Intellectual Property Rights, Annex 1C Marrakesh Agreement Establishing the World Trade Organisation; European Parliament and Council Directive 2004/48/EC of 29 April 2004 on the enforcement of intellectual property rights [2004] OJ L157/45.

⁴¹ Cremers et al (2017), 6; Bechtold, Frankenreiter, Klerman (2019), 505.

⁴² Richter (2021); Fox (2018); Helmers (2018); Christ, Galli, Peuser (2019).

⁴³ Council Regulation 1260/2012 of 17 December 2012 implementing enhanced cooperation in the area of the creation of unitary patent protection with regard to the applicable translation arrangements [2012] OJ L361/89; Agreement on a Unified Patent Court [2013] OJ C 175/1.

Summary of recommendations

- The European Commission could start a sector inquiry to obtain systematic and direct information on the functioning of SEP licensing markets.
- The European Commission could publish guidance on the existing national case law interpreting the *Huawei v ZTE* framework. The guidance could take the form of Communications from the Commission, i.e., non-legal acts meant to provide practical guidance to national courts and stakeholders by reference to the applicable legal context, existing national case-law, and best practices in the specific SEP licensing context. Examples of similar initiatives would be the 2013 Practical Guide on antitrust damages estimation and the 2019 Passing-on Guidelines.⁴⁴
- The European Commission could include in the suggested guidance a non-binding interpretation that companies found to be ‘unwilling licensees’ would need to pay a higher FRAND royalty than ‘willing licensees’. Such interpretation would be compatible with the existing CJEU case law and it would substantially reduce the risk of hold-out.
- The Commission could closely monitor both the ongoing developments within public international law fora on ASIs and the early operations of the Unitary Patent Package before proposing any legislative measure to reduce the risk of forum shopping.

2. Transparency of the SEP landscape: ‘Working with What We Have’

A certain degree of non-transparency in the SEP landscape is unavoidable and inherent in the open standardisation systems. On the one hand, any kind of patent imperfectly fulfils its property notice function: unlike physical properties, patents’ validity and scope (e.g., standard-essentiality and infringement) are unclear until they are tested by national courts.⁴⁵ A large number of patents being granted worldwide, especially in ICT sectors,⁴⁶ and patent quality issues exacerbate patents’ property notice function.⁴⁷ As a result, it is difficult for technology implementers to know their full exposure to third parties’ patents, while patentees can hardly map their patents to every infringement case.

On the other hand, open standardisation systems are highly complex and dynamic efforts occurring on a global scale with numerous companies involved. Standard-Development Organisations’ (SDOs) Intellectual Property Rights (IPR) policies foresee duties to disclose potential SEPs to enable standardisation working groups to make informed decisions regarding the open or proprietary nature of the standard they adopt. The ex-ante SEP disclosure duties (during the development of a standard) are thus inherently vague, in order not to compromise the affordable and timely development of the standard and are not designed to be used in later licensing negotiations. SEP disclosure rests on the patentees’ good faith in self-declaring potentially essential patents without mandating patent portfolio searches. In practice, at the time of standardisation, it might be unclear whether a standard covers a patent, or whether a patent reads on a standard as patent claim construction is a complex and uncertain legal inquiry.

44 Communication from the Commission — Guidelines for national courts on how to estimate the share of overcharge which was passed on to the indirect purchaser [2019] OJ C 267/4; European Commission, ‘Practical guide – Quantifying harm in actions for damages based on breaches of Article 101 or 102 of the Treaty on the Functioning of the European Union accompanying the Communication from the Commission on quantifying harm in actions for damages based on breaches of Article 101 or 102 of the Treaty on the Functioning of the European Union’ (Communication) SWD(2013) 205.

45 Bessen, Meurer (2008).

46 European Patent Office annual reports <https://www.epo.org/about-us/annual-reports-statistics/annual-report.html>; World Intellectual Property Organisation IP Statistics Data Center <https://www3.wipo.int/ipstats/index.htm?tab=patent>.

47 Higham, de Rassenfosse, Jaffe (2021).

To ameliorate SEP transparency issues, without jeopardizing the delicate functioning of the standardization model, it appears wise to realistically exploit instruments already in place in the patent system. For instance, the European Commission could consider harmonising and enriching patent offices' existing registers. Above all, EU-wide harmonisation should strengthen currently ineffective requirements to record the existence of patent transfers and licenses into official patent registers. For example, to compel the recordation of patent transfers and licenses at patent offices, recordation should produce constitutive effects, namely, be a precondition for the transaction to affect the parties' rights. Currently, the recordation of patent transactions has in most Member States declaratory effects: namely, it publishes the intervened transaction and produces effects vis-à-vis good faith third parties.⁴⁸

In practice, very few patent contracts are recorded, to the prejudice of market transparency. Some licensors may have a strategic interest in keeping their patent transfers and licenses secret. The unclear composition of a patent portfolio makes it harder to dispute individual patents' invalidity or non-infringement, while also allowing patent transfers to go unnoticed. Further, licensees often oppose the publicity of licensing transactions, in order to 'hide' from additional licensing demands from other SEP holders – i.e., holding complementary patents, considered relevant for the standard implementation.

Opposed to such private interests stands the public interest of having clear patent rights and efficient SEP licensing, which calls for public and accurate information on patent ownership and the existence of license agreements. If successful, patent challenges clean the patent system from invalid patents. If unsuccessful, patent challenges ameliorate the property notice function of patents clarifying the uncertain boundaries of patent protection. Further, transparency on who takes a license for what patents ensures a level playing field in both technology and product markets: in technology markets, SEP holders can learn about all other previously licensed implementers, while in product markets implementers can identify whether their competitors are licensed or not. Not least, information on existing licenses enables implementers to determine whether their suppliers are already licensed and avoid taking a license for exhausted patents.

After strengthening the registration of intervened patent transfers and licenses, the information included in official patent registers could also be enriched. National patent registers, which already record patentees' offers of licenses of right, could start by adding the availability of FRAND licenses for self-declared SEPs as already foreseen at the European Patent Office (EPO) for the forthcoming Unitary Patents under Art. 9(1)(c) of the Unitary Patent Regulation.⁴⁹

Finally, the Call for Evidence contemplates other SEP transparency measures, such as requiring more specific SEP disclosures and updates of disclosures and patent information or essentiality checks by independent third parties. While these initiatives, in themselves, may certainly improve the transparency of the SEP landscape, they could also generate some licensing inefficiencies. First of all, such new measures would introduce relevant costs. For example, one study estimated that the cost of a full essentiality check ranges between €5,000 – € 10,000 per patent.⁵⁰ Such costs might be especially burdensome for resource-constrained SMEs; they are also likely to be passed through the supply chain to end consumers, in terms of higher standard-implementing product prices. The introduction of any one-sided transparency instrument should be balanced with countervailing incentives for SEP holders. Challenges to the standard-essentiality of checked SEPs should also be limited to intervened contingency grounds, such as changes to the applicable standard specifications or patent claims.

48 Galli (2020).

49 Regulation of the European Parliament and of the Council 1257/2012 of 17 December 2012 implementing enhanced cooperation in the area of the creation of unitary patent protection [2012] OJ L361/1.

50 Bekkers et al (2020).

Summary of recommendations

- The European Commission could propose a legislative measure to harmonise and strengthen the requirement to record patent transfers and licenses into patent offices' official registers.
- Systematically introducing more specific SEP disclosures and requiring mandatory third-party essentiality checks would add significant costs and could jeopardise the standardisation process, therefore, it could be considered a viable solution only on a case-by-case basis after a specific *ad hoc* cost-benefit analysis.

3. The lack of clarity on FRAND terms – value chain licensing

The Call for Evidence and the Questionnaire consider clarifying the concept of FRAND licensing terms and conditions. One of the aspects is determining the appropriate level(s) of licensing in the value chain. We would like to point to two related, but distinct issues: i) the precise legal obligation of SEP owners to license to a certain point in the production chain and ii) a policy question of where in the production chain would be the most optimal point to license.

Legally, the obligation of SEP owners is contained in the text of the FRAND commitment. Which companies are entitled to a license, and at what level of the production chain, is a case-by-case assessment of the interpretation of the specific FRAND commitment. As some of us have explained elsewhere, IEEE is the exception in requiring licensing at every level of the production chain to any company that requests a licence, while other SDOs do not impose such an obligation.⁵¹ In the general case, a FRAND commitment leaves at least four possibilities to ensure access to the standard: i) concluding a FRAND license; ii) indirectly benefiting from a license by selling to licensed end-device manufacturers holding so-called have-made rights; iii) concluding non-assertion agreements, or iv) benefiting from the SEP owner's policy of non-asserting patents at a certain level of the production chain. Legal and economic arguments can either support or oppose each of these options.⁵² Nonetheless, the specificities of the different SEP implementing industries warn against the endorsement of any of the above-mentioned options and rather call for the preservation of FRAND licensing flexibility. In our view, the level of licensing concerns are better addressed by the policy measures discussed below.

From a policy perspective, it can be discussed which level of the production chain is the most appropriate for licensing and how it should be determined. We concur with the Commission's SEP Expert Group's principles for finding the most optimal solution for licensing SEPs in the value chain⁵³:

- licensing at a single level in a value chain for a particular licensed product (or case of applications);
- a uniform FRAND royalty for a particular standard-implementing product, irrespective of the level of licensing;
- the FRAND royalty is a cost element in the price of a non-finished product and should be passed through downstream.

The implementation of these principles is a different matter. The SEP Expert Group considers horizontal and vertical coordination between SEP owners and implementers,⁵⁴ but that would open considerable competition law risks of collusion. Probably at this stage, it would be helpful to endorse the principles of the SEP Expert Group and leave their implementation to the market, allowing different solutions for different industries. In some industries, it may be more efficient to license at a component level, while in others it would be more efficient to license at the end-device level.

51 Borghetti, Nikolic, Petit (2021).

52 Ibid; Martinez (2019); Kuhnen (2019); Conde Gallego (2021); Galli, (2020).

53 EC SEPs Expert Group (2021), 84-85.

54 Ibid, 86-89.

As long as there is one uniform price of a standard for a given field of use, and provided that the price level is not influenced by the level of licensing (e.g., it is not related to the value of the component or the end-device), economically it is irrelevant whether the price is paid by a component or end-device manufacturer. The market could come to the most optimal solution either via patent pools or bilateral licensing negotiations between the parties.

Summary of recommendations

- Within the non-binding guidance on the interpretation of the *Huawei v ZTE* framework mentioned in the previous paragraphs, the European Commission could endorse the SEP Expert Group's principles for value chain licensing:
 1. licensing at a single level in a value chain for a particular field of use;
 2. a uniform FRAND royalty for a particular field of use, irrespective of the level of licensing;
 3. the FRAND royalty is a cost element in the price of a non-finished product and it should be passed through downstream.

4. FRAND Alternative Dispute Resolutions

Alternative Dispute Resolutions (ADRs), such as arbitration, mediation/conciliation, and expert determination, have several advantages over fragmented national patent litigation. The World Intellectual Property Organisation (WIPO) Arbitration and Mediation Centre already offers FRAND-specific ADR rules. In addition, any adjudicator can freely use the FRAND ADR Case Management Guidelines developed by the Munich IP Dispute Resolution Forum. A single ADR can resolve among the parties cross-border SEP infringement, validity, standard-essentiality and FRAND licensing issues with time and cost savings compared to litigation. In the case of arbitration, awards are binding on the parties and enforceable almost worldwide through national enforcement authorities under Art. 3 of the 1958 New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards.⁵⁵ In the EU, binding agreements resulting from mediation are enforceable too under Art. 6 of the Mediation Directive 2008/52/EC.⁵⁶ Moreover, ADR offers more flexibility to accommodate the parties' dispute resolution needs than judicial proceedings. The parties autonomously choose the expert adjudicating body, its procedure (e.g. confidentiality, discovery extent, availability of interim relief, schedule, language) and the applicable law (i.e., the principle of forum neutrality). The table below highlights the perceived advantages and disadvantages of ADR in the technology, media and telecommunication industries.

The arbitration may be more likely to occur for existing contracts: parties may voluntarily provide in their licensing agreement that any royalty-related disputes from the existing agreement and royalty-related disputes from the renewal of the agreement will be subject to ADR. However, ADR may be harder to agree on when there is no prior agreement in place, such as with new IoT implementers of connectivity SEPs. Indeed, the ADR agreement could psychologically appear as an admission of infringement by the implementer. Nevertheless, post-infringement FRAND licensing ADRs do occur, especially if the parties anticipate an ongoing business relationship.⁵⁷ Some EU Member States even impose ADR attempts as mandatory pre-trial requirements or encourage attorneys to advise their clients on ADR possibilities before suing.⁵⁸ In particular, mediation is a preferable starting point before commencing court proceedings or arbitration since it helps to narrow down the contested

⁵⁵ United Nations Convention on the Recognition and Enforcement of Foreign Arbitral Awards (New York, 10 June 1958).

⁵⁶ Directive 2008/52/EC of the European Parliament and of the Council of 21 May 2008 on certain aspects of mediation in civil and commercial matters [2008] OJ L 136/3.

⁵⁷ See European Commission, 'Evaluation Accompanying the Document Communication from the Commission to the Institutions on Guidance on Certain Aspects of Directive 2004/48/EC of the European Parliament and of the Council on the Enforcement of Intellectual Property Rights' (Communication) SWD(2017) 431 final, 36; European Commission, 'Support Study for the Ex-Post Evaluation and Ex-Ante Impact Analysis of the IPR Enforcement Directive (IPRED)' (Final Report) (2017), 111-112.

⁵⁸ European Commission, Study for an evaluation and implementation of Directive 2008/52/EC – the 'Mediation Directive': final report (2016).

issues thereby reducing the costs of any later adjudication. Failed ADR proceedings also become relevant for courts' adjudication of litigation costs, penalising the party who unreasonably refused ADRs. Furthermore, ADRs and court proceedings on separate patent issues can run in parallel - e.g. interim relief through courts and then FRAND determinations through ADRs.

Table 1. Patent ADRs Pros and Cons and Their Relevance for Dispute Resolution in the Technology, Media and Telecommunication Sector

Pros for Survey Respondents	Cons for Survey Respondents
International enforceability 68%	More expensive than certain courts 81%
Avoidance of foreign litigation/single international procedure 65%	Better results via alternative courts (e.g. higher damages, administrative or criminal enforcement) 57%
Expert adjudicating body 60%	Harder-to-get interim relief 57%
Confidentiality 60%,	Greater delays (e.g. manipulation by un-cooperative or aggressive party) 52%
Forum neutrality/applicable law 49%	Lack of expert arbitrators 52%
Limited appeal possibilities 38%	Arbitrators split the baby 38% (i.e. parties as customers not litigants)
Flexibility/Autonomy 30% (e.g. freedom to adopt fee-shifting rules, extent of discovery)	No value as legal precedent/no publicity effects 24%
Cost savings 30%	Specialised courts are better 19%
Time savings/speed 30%	Inarbitrability of certain patent disputes 19%

Table edited upon data from School of International Arbitration QMUL, Pre-empting and Resolving Technology, Media and Telecoms Disputes: International Dispute Resolution Survey (2016), 26-27

In theory, SDOs have a clear role in incentivising ADR mechanisms for their members' global FRAND disputes. However, the idiosyncrasies of each SDO, such as governance, members' business models, funding structure and decision-making rules, warn against the one-size-fits-all imposition of ADR clauses into their IPR policies. Furthermore, compulsory ADRs clauses need a careful design not to impair the European fundamental right of access to justice, while not increasing the complexity of existing court adjudication mechanisms.⁵⁹ Among all ICT SDOs, DVB Project, Blu-Ray Association and VITA are the outliers that include mandatory arbitration clauses in their by-laws, overriding the voluntariness of ADRs.⁶⁰ In the early 2010s, ETSI considered whether to include mandatory arbitration in its IPR policy too.⁶¹ It ultimately decided against mandatory arbitration, because of the range of its stakeholders' divergent interests and the possibility of voluntarily submitting FRAND disputes to ADRs regardless of the IPR Policy.⁶²

Without mandating ADRs within SDOs' by-laws, the Commission's guidance on the interpretation of the Huawei v ZTE framework mentioned above could encourage the appointment of SDOs' officials as independent experts in either ADRs or court proceedings. Such SDOs' officials can offer their expertise on the scope of both the standard in question and the applicable FRAND commitment. More informally, the Commission could spur the interaction between SDOs and existing ADR centres, such as those of WIPO, the International Chamber of Commerce (ICC) and the forthcoming UPC, to develop tailored model submission agreements and exchange best practices also regarding procedural rules and the publication of redacted summaries of FRAND ADR cases.⁶³ A potential venue for such an SDOs-ADR centre interaction could be the permanent European Multi-Stakeholders Platform on ICT Standardisation.⁶⁴

59 Art. 47 Charter of the fundamental rights of the EU OJ C364/1.

60 Contreras, Newman (2014), 47-49.

61 Loyau (2014), 14.

62 Ibid.

63 <https://www.wipo.int/amc/en/center/specific-sectors/ict/frand/>.

64 <https://ec.europa.eu/transparency/expert-groups-register/screen/expert-groups/consult?lang=en&groupID=2758>.

Summary of recommendations

- The Commission's guidance on the interpretation of the *Huawei v ZTE* framework could encourage the appointment of SDOs' officials as independent experts in either ADRs or court proceedings.
- The European Commission, relying on its European Multi-Stakeholders Platform on ICT Standardisation, could spur the interaction between SDOs and existing ADR centres, such as those of WIPO, ICC and forthcoming UPC, to develop tailored model submission agreements and exchange best practices also regarding procedural rules and the publication of redacted summaries of FRAND ADR cases.

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