

The Future of Standard Essential Patent Licensing: From Courts to National Regulators?

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Abstract

The article considers the European Commission's Proposed Regulation on Standard Essential Patents (SEPs) and assesses its impact on the future of SEP licensing. It shows that available evidence does not demonstrate the existence of market failures justifying extensive regulatory intervention. Moreover, the proposed Regulation pursues the redistributive function of shifting the costs to only one group – SEP owners - while conferring the benefits to standard-implementers. The extraterritorial effects of the Regulation may invite other countries to follow the example and introduce their own regulatory regimes for national SEPs. Licensing disputes would be transferred from courts into the hands of national regulators. Private ordering instruments might provide balanced and cost-effective solutions to any potential inefficiencies while leaving dispute resolution to courts, which have proved more than capable of resolving ever-complex issues in SEP licensing.

Introduction

Standard Essential Patents (SEPs) cover technologies incorporated in a technical standard. Technical interoperability standards enable seamless connectivity between computers, smartphones, tablets and many other 'smart' devices contributing to the Internet of Things (IoT).¹ Examples are communications standards (3G, 4G, 5G, Wi-Fi, Bluetooth), video codec standards (HEVC, VVC) or photo formats (JPEG).² Because standards are ubiquitous in modern devices, their importance to the economy and society is significant. Connectivity-enabled standards are estimated to produce 40% of benefits to the IoT.³ Predictions are that the latest 5G standard will lead to \$12.3 trillion of global economic output by 2035, with the global 5G value chain generating around \$3.5 trillion in economic output and supporting 22.3 million jobs.⁴

Technical standards are typically developed by private companies within the framework of Standard-Development Organisations (SDOs).⁵ Often, standards include complex technical contributions and are covered by numerous SEPs. Well-known standards like Wi-Fi, MPEG 4 or 4G are estimated to include hundreds or thousands of SEPs held by various patent owners.⁶ Standard users would need to obtain a license for SEPs to lawfully produce standard-implementing goods.

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¹ The Internet of Things refers to the networks of connected and communicating information and communication technology devices, known as objects or things.

² European Commission, *Impact Assessment Report Accompanying the Document Proposal for a Regulation of the European Parliament and of the Council on Standard Essential Patents and Amending Regulation (EU) 2017/1001*, SWD(2023) 124 final, p. 8-9.

³ McKinsey Global Institute, *The Internet of Things: Mapping the Value Beyond the Hype* (June 2015) <www.mckinsey.com/capabilities/mckinsey-digital/our-insights/the-internet-of-things-the-value-of-digitizing-the-physical-world>.

⁴ IHS Markit, *The 5G Economy: How 5G Will Contribute to the Global Economy?* (January 2017) <<https://cdn.ihs.com/www/pdf/IHS-Technology-5G-Economic-Impact-Study.pdf>>

⁵ See Justus Baron et al, 'Making the Rules: The Governance of Standard-Development Organizations and Their Policies on Intellectual Property Rights' (2019) JRC Science for Policy Report. There may also be standards developed by one firm outside of framework of any SDO that becomes widely adopted in the market which are referred to as *de facto* standards, see Paul Belleflamme, 'Coordination on Formal vs. De Facto Standards: A Dynamic Approach' (2002) 18 *European Journal of Political Economy* 153.

⁶ Not all patents disclosed as potentially essential at SDOs are truly essential for a standard. Thus, the number of SEP declarations is much higher than the number of patents that are actually essential for a standard. The 'over-

Given the importance of SEPs, SDOs have developed policies that attempt to make the use of standards widely available and unimpeded while, at the same time, ensuring adequate rewards to SEP owners for their innovation efforts. SDO IP Policies require their members to disclose patents that are believed to be or might become essential to the standard and commit to license such patents on fair, reasonable and non-discriminatory (FRAND) terms.⁷ However, parties may disagree on the precise meaning of FRAND licensing terms and resort to litigation and complaints to competition authorities, as evidenced by the experience from the ICT industry.⁸

The Commission has a long history of monitoring and intervening in SEP licensing markets. It was instrumental in shaping the first SDO Policy of ETSI, the important European SDO responsible for cellular standards;⁹ investigated Rambus and Qualcomm for alleged charging of excessive royalties;¹⁰ considered that even requesting injunctions for the infringement of SEPs is anti-competitive;¹¹ conducted numerous studies on SEP licensing framework;¹² published a Communication on SEPs;¹³ formed a special SEP Expert Group which provided a report with 79 proposals for changing the current SEP licensing system¹⁴ and, in 2022, initiated a public consultation on a new framework for SEPs.¹⁵ In 2023, as a culmination of all these previous activities, the Commission published a Proposal for a

declaration' occurs for many reasons that are inherent in standard-development system (Ya-Lan Wang, 'Does Over-Declaration Impede Access to Cutting-Edge Standardised Technologies?' (October 2021) <www.4ipcouncil.com/research/does-over-declaration-impede-access-cutting-edge-standardised-technologies>; Rudi Bekkers, et al., *Pilot Study for Essentiality Assessment of Standard Essential Patents* (European Commission 2020). Litigation over SEPs provided some indication on the number of truly essential patents in a standard. See *Unwired Planet v Huawei* [2017] EWHC 2988 (Pat), [2017] R.P.C. 19 at [288], [377] and [378] (finding that out of many thousands potentially essential patents, for the purposes of litigation it was taken that there are 800 SEPs for 4G LTE standard, 479 SEPs for 3G and 154 SEPs for 2G standards); *TCL v Ericsson*, 2018 WL 4488286 (C.D. Cal. 2018) (finding that out of approximately 153,000 patents and patent applications in ETSI database only 1481 patents were considered to be truly essential for 4G standard, and 953 and 365 truly essential patents for 3G and 2G respectively).

⁷ Justus Baron and Daniel Spulber, 'Technology Standards and Standard Setting Organisations: Introduction to the Searle Center Database' (2018) 27 *Journal of Economics & Management Strategy* 462 at 479.

⁸ Igor Nikolic, *Licensing Standard Essential Patents: FRAND and the Internet of Things* (Hart 2021); Chryssoula Pentheroudakis and Justus Baron, *Licensing Terms of Standard Essential Patents: A Comprehensive Analysis of Cases* (European Commission Joint Research Centre 2017).

⁹ *ETSI Interim IPR Policy* (Case No. IV/35.006) [1995] OJ C76, p 5.

¹⁰ European Commission, 'Antitrust: Commission accepts commitments from Rambus lowering memory chip royalty rates', 9 December 2009 (IP/09/189); European Commission, 'Antitrust: Commission closes formal proceedings against Qualcomm', 24 November 2009 (MEMO/09/516).

¹¹ Case AT.39985 *Motorola—Enforcement of GPRS standard essential patents* [2014] OJ C 344/6; Case AT.39939 *Samsung—Enforcement of UMTS standard essential patents* [2014] OJ C 350/8. This was a particularly egregious intervention: competition law is not as important as the right of access the courts. In effect, the Commission did not trust the courts to do their job. The same idea is at least a part of the Commission's reason for its current proposal.

¹² European Commission, *Patents and Standards: A Modern Framework for IPR-based Standardisation* (24 February 2014); Pierre Régibeau, Raphaël De Coninck, Hans Zenger, *Transparency, Predictability, and Efficiency of SSO-based Standardisation and SEP Licensing: A Report for the European Commission* (European Commission 2016); Tim Pohlmann and Knut Blind, *Landscaping Study on Standard Essential Patents (SEPs)* (European Commission 2016); Rudi Bekkers, et al., *Pilot Study for Essentiality Assessment of Standard Essential Patents* (European Commission 2020); Rudi Bekkers, et al., *Landscape Study of Potentially Essential Patents Disclosed to ETSI* (European Commission 2020).

¹³ European Commission, *Setting Out the EU Approach to Standard Essential Patents*, COM(2017) 712 final.

¹⁴ Group of Experts on Licensing and Valuation of Standard Essential Patents, 'Contribution to the Debate on SEPs' (2021) available at: <https://ec.europa.eu/docsroom/documents/45217>

¹⁵ European Commission, 'Intellectual Property – New Framework for Standard-Essential Patents' <https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13109-Intellectual-property-new-framework-for-standard-essential-patents_en>.

Regulation on Standard Essential Patents.¹⁶ It would radically change the current SEP licensing and litigation system.

This discussion aims to analyse the proposed changes which would be brought about by the proposed Regulation. It assesses their possible effects on SEP licensing markets. It will demonstrate, first, that the current empirical evidence does not point to a market failure justifying regulatory intervention. Next, the Regulation would impose disproportionate costs on SEP owners, which may, indeed are likely, to result in SEP holders litigating their disputes outside the EU to avoid the application of the Regulation. Moreover, other countries, inspired by the Regulation, might adopt their own, different regulatory regimes for SEPs, resulting in conflicting systems. Moreover, it would shift dispute resolution from courts to national regulators. And it could well delay even further resolution of disputes between determined SEP holders and implementers. We call for market-based solutions to perceived licensing inefficiencies rather than government intervention.

The structure of the article is the following. The next section presents the current system of SEP licensing and litigation and describes the Commission's reasons for intervening in SEP licensing markets. It also analyses whether those reasons provide sufficient justification for regulatory intervention. The section after that evaluate the proposed Regulation and this is followed by an examination of its possible consequences, while the final section proposes some private ordering solutions that may alleviate SEP licensing inefficiencies in the future and leave the final say about licensing disputes to the courts.

Why intervene in SEP licensing markets?

The current system of SEP licensing consists of bilateral negotiations and collective licensing via patent pools. By far greater proportion of licensing agreements are concluded amicably,¹⁷ but in cases where parties cannot agree, litigation may become necessary:¹⁸ a feature of commercial disputes of all kind.¹⁹ Over the years, courts have proven more than capable of resolving various contentious questions about SEPs. For instance, they gave guidance if and under what conditions the SEP owner can request and obtain an injunction for the infringement of SEPs;²⁰ what is the FRAND rate between the parties;²¹ is the scope of FRAND license global or national;²² what is the meaning of the non-discrimination requirement of a FRAND commitment;²³ does FRAND commitment require SEP owners to offer licenses at different levels of the production chain;²⁴ and consider the allegations of patent holdup (supposedly opportunistic behaviour of SEP owners attempting to charge more than FRAND terms) and holdout (implementers intentionally delaying or avoiding the conclusion of licensing agreement).²⁵

¹⁶ European Commission, *Proposal for a Regulation of the European Parliament and of the Council on Standard Essential Patents and Amending Regulation (EU) 2017/1001*, COM(2023) 232 final.

¹⁷ Justus Baron, Pere Argue-Castells, Amandine Leonard, Tim Pohlman, Eric Sergheraert, *Empirical Assessment of Potential Challenges in SEP Licensing* (European Commission 2023), p. 112.

¹⁸ See European Commission, *Impact Assessment Report Accompanying the Document Proposal for a Regulation of the European Parliament and of the Council on Standard Essential Patents and Amending Regulation (EU) 2017/1001*, SWD(2023) 124 final (Impact Assessment) p. 26 (“about 70% of the implementers take a license without litigation according to the results from the public consultation”).

¹⁹ Adapting von Clausewitz's aphorism: “Litigation is the continuation of negotiation by other means.”

²⁰ C-170/13 *Huawei v ZTE*, EU:C:2015:477

²¹ *Unwired Planet v Huawei* [2017] EWHC 711 (Pat), [2019] 4 C.M.L.R 7.

²² *Sisvel v Haier*, KZR 36/17, BGH (5 May 2020).

²³ *Unwired Planet v Huawei; Huawei and ZTE v Conversant* [2020] UKSC 37, [2021] R.P.C. 21; *Philips v Wiko*, 6 U 183/16 Karlsruhe Higher Regional Court (30 October 2019); *HEVC (Dolby) v MAS Elektronik*, 4c O 44/18 Dusseldorf Regional Court (7 May 2020).

²⁴ *Nokia v Daimler*, 2 O 34/19, Mannheim Regional Court (18 August 2020); *Sharp v Daimler*, 7 O 8818/19 Munich Regional Court (10 September 2020).

²⁵ See *Sisvel v Haier*, KZR 36/17, BGH (5 May 2020), 61 (that implementers should not engage in patent hold-out by exploiting the structural disadvantage, which SEP holders face due to the limitation of their right to assert patents in court); *Optis v Apple* [2022] EWCA Civ 1411 at [115] (“Apple's behaviour Could well be argued to constitute a form of hold out ... while Optis' contention ... would open the door to holdup”); *Ericsson v D-Link*, 773 F.3d 1201, 1234 (Fed Cir 2014) (“The district court need not instruct the jury on hold-up or stacking

The Court of Justice in *Huawei v ZTE* provided a framework for good-faith license negotiation. Courts of the EU Member States have subsequently become accustomed to evaluating the conduct of both parties and have, by now, produced substantial case law and guidance on the contents of good-faith licensing negotiations.²⁶

Despite the successful interventions by the courts, the Commission is concerned that the current SEP licensing and litigation system is fraught with problems and inefficiencies. Three alleged major problems have been suggested as justifying regulatory intervention.

First are high transaction costs and licensing uncertainties. According to the Commission, the average bilateral negotiation costs per licence for the SEP holder and the implementer are estimated between €2 million and €11 million.²⁷ The Commission asserts that licensing uncertainties follow from the insufficient transparency on SEP ownership and essentiality, the lack of information about FRAND royalties and a dispute system not adapted for FRAND determination.²⁸ Such a system is said to be unsatisfactory for both parties. The Commission maintains that SEP owners face long negotiations and high costs of licensing.²⁹ To better assess the value that the technology brings to standard implementations, it says a SEP owner would have to wait a few years (on average, between two to four) until the standard is implemented in the market and then approach companies with an offer to license.³⁰ Negotiations would then ensue, taking about three years. If no agreement is reached, litigation would add another one to two and a half years.³¹ During all this time, the SEP owner would not receive any royalties for the use of its technology. This “explanation” for delays in licensing bears no resemblance to the real world. SEP holders are committed to licence their entire portfolio for the existing version of any standard and do not wait. Nor is there any need for implementers to wait.³² According to the Commission, delays in adoption of new standards may explain why major SEP owners usually have licenses with only 100-200 implementers with sufficiently high volumes and/or sales value that would allow for the absorption of these costs.³³ Thus, it suggests SEP owners are unable to license the whole market. High licensing and negotiation costs may reduce their income base and incentive for participation in developing new standards.³⁴ The Commission cites no evidence to support this theory. By implication it is suggesting that SEP holders will get a bigger income if the proposal is adopted. That is wholly improbable – indeed so far as we are aware no major SEP holder (i.e. innovator) has welcomed the Proposal – far from it.³⁵

On the other hand, the Commission says that implementers face uncertainty about the costs of using standards, potentially discouraging them from implementing new technologies.³⁶ Implementers who

unless the accused infringer presents actual evidence of hold-up or stacking. Certainly something more than a general argument that these phenomena are possibilities is necessary.”)

²⁶ An electronic database of cases implementing *Huawei v ZTE* is available at: <https://caselaw.4ipcouncil.com/guidance-national-courts>

²⁷ European Commission, *Impact Assessment*, p. 13.

²⁸ European Commission, *Impact Assessment*, p. 17.

²⁹ European Commission, *Impact Assessment*, p. 14.

³⁰ European Commission, *Impact Assessment*, p. 12.

³¹ European Commission, *Impact Assessment*, p. 12.

³² Standards are regularly modified – up-date releases appear every year or so with every now and then a major new version e.g 5G for mobile communications.

³³ European Commission, *Impact Assessment*, p 12.

³⁴ European Commission, *Impact Assessment*, p. 16.

³⁵ See Brooke Masters, “Qualcomm, Nokia and other patent holders describe the plans as ‘profoundly unbalanced’ and ‘not fit for purpose’ saying it will primarily cut costs for Apple and big carmakers at their expense. “*What the Great EU Patent Fight Means for Global Competition*”, *Financial Times*, 23 August 2023 < www.ft.com/content/ebd533a7-b8d1-4d51-bd2e-8288c60490d1>

³⁶ European Commission, *Impact Assessment*, p. 15 **There is no good evidence whatever that implementers are in fact discouraged from implementing new standards by uncertainty about licencing costs.**

take a licence are also worried about being disadvantaged against their unlicensed foreign competitors.³⁷ Of course, licensees are worried about competitors who do not take licences: it makes no difference whether they are foreign or home-grown. But the Commission does not seem to have taken into account that this hold-out is not only real, but is the most egregious example of anti-competitive behaviour. The payor licensee has to compete with the infringing non-payor. Nor has the Commission examined the facts as to *why* there are these delays in the conclusion of licenses.³⁸

The second supposed problem is the growing IoT market that increasingly uses technological standards from the ICT industry.³⁹ IoT markets are fragmented, and volumes for certain applications may be small and profit margins tight. These industries are also not familiar with SEPs. The combination of these factors is said to make SEP licensing more difficult and expensive. The third supposed major concern is the protection of SMEs. According to the Commission, SMEs lack the resources to negotiate with SEP owners on an equal footing or to engage in court proceedings.⁴⁰ They also do not have sufficient licensing expertise. 84% of EU-based standard implementers are SMEs or around 3,192 companies.⁴¹ However, the publicly available evidence relied by the Commission, does not justify any real concern with the current SEP licensing system, still less a concern of such magnitude to justify extensive regulatory intervention.

As to high transaction costs and licensing uncertainties, the Commission's study found that this has not led to increased litigation or systemic negative effects.⁴² First, they found that SEP litigation cases are relatively stable in Europe, decreasing in the US but increasing in China.⁴³ In recent years, the share of declared SEPs subject to litigation has declined.⁴⁴ Then, they showed that the prevalence of SEP litigation is low and does not increase over time. According to the study, there are fewer than 0.05 litigations per license involving major SEP licensors and patent pools.⁴⁵ Regarding the effects of the current SEP licensing system on the incentives of SEP owners and implementers, the study found no evidence that SEP owners contribute less to standard-development.⁴⁶ The econometric evidence suggests that a significant share of contributions to standard development rely on patent-related incentives, indicating the importance of preserving innovation incentives for the successful standard-development process. On the side of implementers, the study found no evidence that SEP licensing frictions lead implementers to switch to alternative (royalty-free) standards or to have systematically depressed or delayed standard implementation.⁴⁷

The evidence from the mobile telecommunication market, which is believed by the Commission to be primarily associated with SEPs licensing inefficiencies, demonstrates that it is functioning particularly well, with year-to-year increased output, lower prices, increased market entry, a constant stream of innovative products from different implementers and billions of euros investment in research and development (R&D) for connectivity standards and the roll-out of new network infrastructures.⁴⁸ For

³⁷ European Commission, *Impact Assessment*, p. 16. This makes no sense as far it refers to “foreign” competitors. Licensing is in practice worldwide. Licensees are or course concerned about unlicensed competitors – foreign or not.

³⁸ It is difficult to imagine anything else than prevarication by some implementers.

³⁹ European Commission, *Impact Assessment*, p. 23.

⁴⁰ European Commission, *Impact Assessment*, p. 17.

⁴¹ European Commission, *Impact Assessment*, p. 11.

⁴² Justus Baron, et al, *Empirical Assessment of Potential Challenges in SEP Licensing* (European Commission 2023).

⁴³ Justus Baron, et al, *Empirical Assessment of Potential Challenges in SEP Licensing*, pp 109-110.

⁴⁴ Justus Baron, et al, *Empirical Assessment of Potential Challenges in SEP Licensing*, p 110.

⁴⁵ Justus Baron, et al, *Empirical Assessment of Potential Challenges in SEP Licensing*, pp 108 and 112.

⁴⁶ Justus Baron, et al, *Empirical Assessment of Potential Challenges in SEP Licensing*, p 164.

⁴⁷ Justus Baron, et al, *Empirical Assessment of Potential Challenges in SEP Licensing*, p 164.

⁴⁸ For some of the voluminous literature see: Alexander Galetovic, Stephen Haber and Ross Levine, ‘An Empirical Examination of Patent Holdup’ (2015) 11 *Journal of Competition Law & Economics* 549; Kate Mallinson, ‘Don’t Fix What Isn’t Broken: The Extraordinary Record of Innovation and Success in the Cellular Industry Under Existing Licensing Practices’ (2016) 23 *George Mason Law Review* 967; David Teece, ‘The “Tragedy of the

example, the latest estimate for the mobile economy in 2022 was 8.4 billion SIM connections and 4.4 billion mobile internet subscribers, contributing \$5.2 trillion or 5% of the global gross domestic product and supporting directly and indirectly 28 million jobs.⁴⁹ In Europe, subscriber penetration was 90%, and smartphone adoption was 81%.⁵⁰ 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.⁵¹ 5G is expected to add up to €1 trillion to European GDP by 2025.⁵² In comparison, the total estimated revenue from cellular SEP licensing was estimated to be less than 0.5% of the size of the mobile economy.⁵³ Other studies found that the cumulative royalty yield of 2G, 3G and 4G SEPs was only 3.4% of the smartphone's average selling price, or just \$9.60.⁵⁴

As to potential licensing problems in the IoT, we are yet to see the full implementation of ICT standards and corresponding SEP licensing. As such, it is too early to conclude with a sufficient degree of certainty if there will be a systemic problem with IoT licensing. The Commission's Impact Assessment did not provide information on the current SEP licensing revenues obtained from different IoT sectors.⁵⁵ Thus, we do not know the current magnitude of SEP licensing in the IoT. What is certain is that IoT devices will grow in the future. According to the CRA study, in 2022, the number of cellular IoT devices was only 20% of the number of mobile phones, while by 2030, the number of IoT devices will grow to 60%.⁵⁶ As such, there is a potential that licensing in the IoT may generate significant revenues, but at the moment, we do not have sufficient information on how many IoT devices are currently licensed.

However, we may observe that market actors are adapting to the challenges posed by IoT. Avanci is a platform for licensing 3G, 4G and soon 5G in the IoT.⁵⁷ It has a licensing programme for car manufacturers and has more than 120 million licensed connected vehicles.⁵⁸ Avanci includes 56 licensors and has brought together the largest SEP owners, such as Samsung, Qualcomm, Nokia and Ericsson. It offers a one-stop solution to vehicle manufacturers with a single per unit-license of \$20 per vehicle – less than a parking ticket over the whole life of the vehicle!! According to some estimates,

Anticommons" Fallacy: A Law and Economics Analysis of Patent Thickets and FRAND Licensing' (2017) 32 *Berkeley Technology Law Journal* 1490; J. Gregory Sidak, 'Is Patent Holdup a Hoax' (2018) 3 *Criterion Journal on Innovation* 401; Alexander Galetovic, Stephenn Haber and Lew Zaretzki, 'Is There an Anti-Commons Tragedy in the Smartphone Industry' (2018) 32 *Berkeley Technology Law Journal* 1527; Daniel Spulber, 'Licensing Standard Essential Patents with FRAND Commitments: Preparing for 5G Mobile Telecommunications' (2020) 18 *Colorado Technology Law Journal* 79; Dirk Auer and Julian Morris, 'Governing the Patent Commons' (2020) 38 *Cardozo Arts & Entertainment Law Journal* 291

⁴⁹ GSMA, 'The Mobile Economy' (2023) < <https://www.gsma.com/mobileeconomy/>>

⁵⁰ GSMA, 'The Mobile Economy' (2023) < <https://www.gsma.com/mobileeconomy/>>.

⁵¹ IHS Markit, *The 5G Economy: How 5G Will Contribute to the Global Economy?* (2019).

⁵² Accenture, 'The Impact of 5G on the European Economy' (February 2021) < <https://www.accenture.com/content/dam/accenture/final/a-com-migration/manual/r3/pdf/pdf-144/Accenture-5G-WP-EU-Feb26.pdf?tlaAppCB>>.

⁵³ Bowman Heiden, Jorge Padilla and Ruud Peters, 'The Value of Standard Essential Patents and the Level of Licensing' (2021) 49 *AIPLA Quarterly Journal* 1, 5-6.

⁵⁴ Alexaner Galetovic, Stephen Haber and Lew Zaretzki, 'An Estimate of the Average Cumulative Royalty Yield in the World Mobile Phone Industry: Theory, Measurement and Results' (2018) 42 *Telecommunications Policy* 263; Kate Mallinson, 'Cumulative Mobile SEP Royalties' (19 August 2015); J. Gregory Sidak, 'What Aggregate Royalty Do Manufacturers of Mobile Phones Pay to License Standard-Essential Patents?' (2016) 1 *Criterion Journal of Innovation* 701.

⁵⁵ The European Commission noted that SEP royalty payments in the mobile telecommunications industry generate between EUR 14 – 18 billion per year: European Commission, *Impact Assessment*, p. 9.

⁵⁶ Raphaël De Coninck, Christoph von Muellern, , Samuel Zimmermann, Kilian Mueller, *SEP Royalties, Investment Incentives and Total Welfare* (2022) (CRA Study 2022), pp 18-19 < <https://fair-standards.org/wp-content/uploads/2023/04/SEP-Royalties-Investment-Incentives-and-Total-Welfare.pdf>>.

⁵⁷ <https://www.avanci.com/>

⁵⁸ <https://www.avanci.com/vehicle/4g/>

Avanci successfully covered over 80% of the market.⁵⁹ It may be said that SEP licensing in the automotive sector has successfully concluded, despite the initial reluctance of car manufacturers and disputes about the appropriate level of licensing.⁶⁰

In another example, Sisvel, a patent pool administrator, is experimenting with a novel payment mechanism to address the concern that companies that first take a license are disadvantaged against their unlicensed competitors. For its Wi-Fi 6 pool, it provided a licensing programme that adjusts royalty payments based on the percentage of the licensed market.⁶¹ In other words, most royalty payments will be deferred unless and until other competitors also pay. Such a mechanism protects licensees from patent infringement liability while paying only a fraction of the due royalties until the whole market takes a licence. The experience of Avanci and Sisvel pools demonstrates that SEP owners are adjusting to the changed market realities and are looking for ways to simplify licensing with innovative structures to address the need for certainty and transparency in the IoT.

As to the supposed harmful impact of the current system of SEP licensing on SMEs, such a conclusion cannot be drawn from the evidence the Commission had available. The Commission thought that most SMEs are *de facto* not licensed because licensing costs outweigh potential licensing revenues.⁶² To understand the views of SMEs, the Commission carried out two surveys, a general one in which all stakeholders could participate and a targeted one only for SMEs. The Commission received responses from nine SMEs in the general survey, while 37 SMEs participated in the targeted survey.⁶³ That represents a sample of only 1.15% out of apparently 3,192 SMEs that implement standards. It is impossible to draw general conclusions from such a limited sample. A question may be asked, if SMEs face licensing problems, why have they not expressed more interest in surveys? The only answer that can reasonably be drawn is that there is no problem. The SME survey shows *some* licensing; seven out of 37 SMEs had a license.⁶⁴ However, it would be interesting to know which SEP owners approached and licensed SMEs and the licensing policies of major SEP owners towards SMEs. The Commission did not have such information. *In reality many IoT devices are likely to be comparatively low in cost and value and bear correspondingly low royalties – smart meters would be a typical example of the sort of device concerned.*

While there is no evidence that the current SEP licensing framework has produced systematic negative effects, this is not to say that the system could not be improved. Evidence still shows that licensing costs are not insignificant and that it takes years to conclude licensing agreement. Moreover, it is unlikely that every SEP owner could reach every implementer in the IoT, thus creating an uneven playing field between licensed and unlicensed implementers.

There may be ways that might improve the existing system in a cost-effective, balanced, and efficient way. Different private and public ordering instruments could be used to that effect.⁶⁵ Extensive regulatory intervention might not be necessary or proportionate if the aims could be achieved with less

⁵⁹ Victoria Walderssee and Supantha Mukherjee ‘Automakers Tackle Patent Hurdle in Quest for in-car Tech’, 21 September 2021 *Reuters*, available at: <www.reuters.com/business/autos-transportation/automakers-tackle-patent-hurdle-quest-in-car-tech-2022-09-21/>

⁶⁰ Igor Nikolic, ‘Injunctions Facilitate Patent Licensing Deals: Evidence from the Automotive Sector’, 20 June 2022 *CPI Columns Intellectual Property* <www.pymnts.com/cpi_posts/injunctions-facilitate-patent-licensing-deals-evidence-from-the-automotive-sector/>/

⁶¹ Sisvel, ‘LIFT: Accelerating Market Penetration and Levelling the Playing Fields’, 18 July 2022 <www.sisvel.com/blog/wireless-communications/lift-levelling-the-playing-field-for-early-licensees>

⁶² European Commission, *Impact Assessment*, p 17.

⁶³ European Commission, *Impact Assessment*, pp 63 and 68.

⁶⁴ European Commission, *Impact Assessment*, p. 67. Another study found that only one out of 12 surveyed SMEs had a licence, see Joachim Henkel, ‘Licensing Standard-Essential Patents in the IoT – A Value Chain Perspective on the Markets for Technology’ (2022) 51 *Research Policy* 104600.

⁶⁵ Bowman Heiden and Justus Baron, ‘A Policy Governance Framework for SEP Licensing: Assessing Private Versus Public Market Interventions’ (2021) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3872493>.

costly instruments.⁶⁶ In other words, market imperfections are necessary but not sufficient conditions for regulatory intervention. Regulators should also be mindful of not falling into the ‘nirvana fallacy’, striving for ideal but unrealistic solutions that produce more costs than feasible alternatives that do not lead to ideal results.⁶⁷

Changes introduced by the proposed SEP Regulation

The proposed Regulation would have a wide scope of application. It applies to all holders of SEPs in force in one or more EU Member States and to all standards published by standard-development organisations to which the SEP owner has given a FRAND commitment.⁶⁸ A so-called “Competence Centre” within the EUIPO will be established and tasked with implementing the Regulation.⁶⁹

The proposal provides an elaborate system of notification of standards and SEPs to the Competence Centre intending to increase transparency in the SEP landscape. The Competence Centre will maintain a SEP Register and a SEP Database. A SEP Register will include information, among others, on relevant standards, registered SEPs and standard’s version, technical specification and the specific section for which the patent is considered essential.⁷⁰ A SEP Database will include more detailed information about registered SEPs, such as, for example, patent bibliographic data, public licensing terms and conditions, information regarding products implementing the standard, information about essentiality, non-confidential information on FRAND determination and information on aggregate royalty rates.⁷¹ Until SEPs are registered, they cannot be enforced before courts, and the SEP owner shall not be entitled to receive royalties or seek damages for infringement.⁷² SEP owners, through SDOs, must also notify the Competence Centre about any new standards and known implementations of standards.⁷³ Such notification must be made within 30 days of publishing the latest technical specification.⁷⁴ Registration of SEPs shall be made within six months from the publication of the standard at the Competence Centre or within six months from the grant of the SEP by the relevant patent office, whichever is the first.⁷⁵ The information on registered SEPs must be regularly updated.

Another transparency measure is essentiality checks of registered SEPs. Essentiality checks will be conducted annually by appointed evaluators, on a sample of registered SEPs from different patent families from each SEP owner and for each specific standard.⁷⁶ The precise methodology for the selection of a statistically relevant sample will be provided at a later stage by the Commission. Additionally, each SEP holder may voluntarily propose up to 100 registered SEPs from different patent families annually to be checked for essentiality for each specific standard.⁷⁷ Implementers can request the same.⁷⁸ The Competence Centre shall publish the essentiality ratio per SEP owner and per specific standard.⁷⁹

The proposal also includes provisions on the aggregate royalty rate for a standard. The idea is to provide transparency on the total price of the standard. Implementers could plan their costs in advance if they know how much the use of the standard would cost. As a first step, SEP holders may jointly notify the

⁶⁶ Auer and Morris, ‘Governing the Patent Commons’.

⁶⁷ Harold Demsetz, ‘Information and Efficiency: Another Viewpoint’ (1969) 12 *Journal of Law and Economics* 1

⁶⁸ Proposed Regulation, arts 1(2) and 1(5).

⁶⁹ This issue of competent staff is discussed below.

⁷⁰ Proposed Regulation, art 4.

⁷¹ Proposed Regulation, art 5.

⁷² Proposed Regulation, art 24.

⁷³ Proposed Regulation, art 14.

⁷⁴ Proposed Regulation, art 14(2).

⁷⁵ Proposed Regulation, art 20(3).

⁷⁶ Proposed Regulation, art 29.

⁷⁷ Proposed Regulation, art 29(5).

⁷⁸ Proposed Regulation, art 29(6).

⁷⁹ Proposed Regulation, art 33(2).

Competence Centre of the aggregate royalty for SEPs covering a standard.⁸⁰ The joint notification should, among others, include the estimated percentage of SEP holders making the notification from all other SEP owners and the estimated percentage of SEPs they collectively own.⁸¹ The joint notification shall be made within 120 days after the publication of the standard by the SDO or after any new implementation of the standard that becomes known to them.⁸² The aggregate royalty rate may be revised and should be notified to the Competence Centre.⁸³ As a second option, if SEP holders cannot reach an agreement, the competence centre may appoint a conciliator to mediate the discussion. Such an option can be requested by SEP owners holding at least 20% of all SEPs.⁸⁴ The mediation process should last six months. The third option is for a SEP owner or an implementer to request a non-binding expert opinion on a global aggregate royalty.⁸⁵ The Competence Centre will appoint one or a panel of three conciliators, depending on the percentage of SEP owners and implementers participating in the process. Conciliator(s) should produce an expert opinion on the global aggregate royalty rate within eight months.⁸⁶

Finally, the proposed Regulation requires a mandatory but non-binding FRAND determination before an SEP holder or implementer can start any SEP litigation in the EU.⁸⁷ The SEP owner or the implementer must start the process before initiating a SEP infringement claim or a request to determine FRAND terms before a court of a Member State, respectively.⁸⁸ The FRAND determination process should last up to nine months unless otherwise agreed by the parties.⁸⁹ The process may continue even if only one party actively participates.⁹⁰ At the end of the procedure, the conciliator will make a final proposal, which the parties may or may not accept.⁹¹ If the parties do not settle, the conciliator will issue a report on FRAND terms and conditions. The non-confidential part will be published in the SEP database.⁹²

The Commission has failed entirely to see that this proposal, if implanted, would very likely to lead to hold-out. An implementer pursuing a policy of pay as little as possible as late as possible, would in practice be given a 9 month delay

The Commission say it will publish the precise criteria for the appointment of evaluators and conciliators at a later date.⁹³

Evaluating the effects of the SEP Regulation on SEP licensing markets

While the Commission's proposal pursues good intentions of increasing transparency and certainty to parties in SEP licensing, it is improbable that the proposed solutions will achieve the aims. This section raises several issues that should be considered in future policy discussions.

The value-redistributive function of the Regulation

The proposal imposes unbalanced costs and benefits. According to the Impact Assessment, SEP owners will bear all the costs while implementers will reap all the benefits.⁹⁴ The ten-year average approximate

⁸⁰ Proposed Regulation, art 15.

⁸¹ Proposed Regulation, art 15(2).

⁸² Proposed Regulation, art 15(3).

⁸³ Proposed Regulation, art 16.

⁸⁴ Proposed Regulation, art 17.

⁸⁵ Proposed Regulation, art 18.

⁸⁶ Proposed Regulation, art 18(10).

⁸⁷ Proposed Regulation, art 34.

⁸⁸ Proposed Regulation, art 34(1).

⁸⁹ Proposed Regulation, art 37(1).

⁹⁰ Proposed Regulation, art 38.

⁹¹ Proposed Regulation, art 55.

⁹² Proposed Regulation, art 57.

⁹³ Proposed Regulation, arts 26-27. This itself is alarming – unless one know the quality and qualifications of the proposed appointees who are going to do the work, how could one sensibly endorse the proposal?

⁹⁴ European Commission, *Impact Assessment*, p. 58.

annual benefits for SEP implementers are estimated at €24.4 million, while for SEP owners the costs are €28.9 million. As such, the proposed Regulation does not attempt to improve conditions for all actors but directly seeks to redistribute value from SEP owners to implementers. The Commission notes that a large part of SEP owners' costs is due to an expected increase in patent fees because of the anticipated rise in the number of patents.⁹⁵ It continues that patent fees would represent revenue to the European Patent Office and national patent offices, making the whole system socially profitable.

The Commission recognised that it is difficult to predict the impact of proposed Regulation on the level of royalties. The effects of the proposal may go in two opposing directions: potentially more firms taking a license (increasing implementation costs and income for SEP owners); or potentially lower royalties paid (decreasing implementers' costs and income of SEP owners).⁹⁶ The latter scenario would place even more costs on SEP owners. If royalty revenues fall and costs of licensing increase, an unintended but obvious consequence could be that SEP owners may no longer find collaborative standardisation attractive and may, instead, pursue proprietary solutions which are not encumbered by a FRAND commitment. A fragmented world system would surely impede innovation.

The EU-based implementers will not even be the primary beneficiaries of the proposal's value-redistribution. According to the Commission's Impact Assessment only 8% of potential manufacturing firms are located in the EU. In other words, 92% of implementers are non-EU companies. The proposed Regulation would effectively subsidise non-EU implementers while, at the same time, harming European technology developers and Europe's technological leadership.

It is difficult to see justifications for such value redistribution from the presented evidence of the functioning of SEP licensing.

The wide scope of the proposed Regulation

The proposed Regulation has a very wide scope; it applies to an unknown number of standards.⁹⁷ It catches all FRAND committed SEPs after its entry into force.⁹⁸ It is not clear why such large scope is necessary. The discussions about SEP licensing problems are related only to a few standards, mainly cellular communication (3G, 4G, 5G) and Wi-Fi. Other standards licensed on FRAND terms have not been mentioned as potentially problematic. Nevertheless, the proposed Regulation will apply to *all* standards licensed on FRAND terms. The Commission noted that there were around 75,000 patent families of declared SEPs worldwide in 2021.⁹⁹ Still, we do not have the information on how many SDOs were analysed nor the number of standards that are expected to be caught. An earlier study in 2010 identified 251 technical interoperability standards in a modern laptop. 148 were licensed under FRAND terms.¹⁰⁰ It is unclear why these 148 standards should be regulated and what market failures have been associated with them. If anything, a better understanding of the SEP licensing system in the laptop market is required before introducing a regulation.

The proposal provides some exceptions from its full application for some standards deemed as unproblematic. By a special act, the Commission will designate standards and use cases "where there is sufficient evidence that ... SEP licensing negotiations on FRAND terms do not give rise to significant difficulties or inefficiencies affecting the functioning of the internal market".¹⁰¹ In other words, there is a presumption that *all* standards with FRAND licensing conditions are inefficient and affect the functioning of the internal market. It would be on stakeholders to rebut this presumption. As discussed,

⁹⁵ European Commission, *Impact Assessment*, p 58.

⁹⁶ European Commission, *Impact Assessment*, p. 50.

⁹⁷ The Commission does not say it has even investigated how many standards would be affected by the Proposal.

⁹⁸ Proposed Regulation, art 1(2).

⁹⁹ European Commission, *Impact Assessment*, p. 8.

¹⁰⁰ Brad Biddle, Andrew White and Sean Woods, 'How Many Standards in a Laptop? (And Other Empirical Questions) (2013) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1619440>

¹⁰¹ Proposed Regulation, art 1(4).

the available empirical evidence does not provide reasons for concluding that there are wide-ranging market failures in SEP licensing markets. Far from it.

Even for such unproblematic standards, the exceptions are limited. Only the provisions on conciliators facilitating the agreement on aggregate royalty rates, the provision of non-binding expert opinion on global aggregate royalty rates and the mandatory FRAND determination will not apply.¹⁰² In other words, the costliest obligations—the registration of SEP and annual essentiality checks—will continue to apply even for these standards.

The need for qualified experts as evaluators and conciliators

The reliability of the proposed Regulation depends on having qualified experts working as evaluators and conciliators. In particular, the evaluators will need to have specialised knowledge of a particular technological area where they will be conducting essentiality checks. The Commission estimates that the number of experts qualified to do essentiality checks in the EU is around 1,500 (650 patent attorneys and 800 patent examiners).¹⁰³

The sheer magnitude of the task would require many evaluators. It is very doubtful that the right number of qualified experts are available on the market to join this process. Patent examiners are already busy and working full-time at patent offices. If they are to be used, then special arrangements will need to be put in place with patent offices to grant them leave to conduct essentiality checks. The availability of patent examiners and patent attorneys would depend on the amount of work. Each year, evaluators would need to test a random sample of up to 100 SEPs per standard if requested by each SEP owner or an implementer. Thus, the amount of work may exponentially increase depending on how many standards are caught by the proposed Regulation. If 148 FRAND-licensed standards per laptop are to serve as a rough proxy, then we might expect more than 100-200 standards to be checked for essentiality every year. In addition, if SEP owners and implementers regularly use the possibility of testing up to 100 SEPs per standard and per SEP owner, the sheer magnitude of work may exceed the capacity of patent attorneys. Patent attorneys may find it challenging to regularly engage in such high volumes of essentiality checks while serving other clients. And why should they do it at all unless the rate of pay is at least what they would otherwise earn? Being blunt, the work would not be as much fun as acting for real clients so the pay would probably have to be higher to attract applicants.

Consequently, it is very unlikely that the capability to annually perform a large number of essentiality checks of registered SEPs even exists. If the lack of capacity predicted occurs, it would be problematic if the requirements for becoming an evaluator are relaxed, as this would put doubts on the reliability of the whole system. There is no point in building a battleship unless you are sure you can get a competent crew.

Additionally, patent attorneys who are familiar with this technology may well find themselves with a conflict of interest. They will probably have worked for some SEP owners or implementers. Elaborate rules for avoiding conflicts of interest would need to be implemented to prevent patent attorneys who were, or still are, engaged with a certain client from becoming evaluators of its registered SEPs. The conflict problem would of course not only apply to an individual attorney but to the attorney's whole firm.

Conciliators would also need to be experts in the field. They might come from retired judges, seasoned former company officials or experienced lawyers. Conflict of interest provision should also ensure their independence and impartiality in mandatory FRAND determinations. But the job would have to be attractive enough financially and work-wise. The Commission has made no investigation as to whether a sufficiently large pool of credible people could be found to make the system work. Of course, there are well established voluntary systems of conciliators and mediators: some are used now to help resolve FRAND disputes. But the proposal adds the idea of compulsory mediation or conciliation. There is

¹⁰² Proposed Regulation, art 1(3).

¹⁰³ European Commission, *Impact Assessment*, p. 101.

scant evidence that either of these works in other commercial disputes around the world, it is unclear why it is assumed it should work here.

Finally, there is no attempt to suggest why or how the conciliators would or could do any better at assessing SEP rates than the national courts which have been doing the job for some years now.

Competitive and practical concerns with aggregate royalty rates

The proposal raises competition concerns; the participation of implementers in process of providing an expert opinion on global aggregate rates may be used as a vehicle for buyers cartel and could devalue FRAND royalty rates. Namely, it is unclear from the text of the proposed Regulation if implementers are allowed to coordinate their submissions to conciliators. If this is enabled, then implementers might use the process to exchange commercially sensitive information and agree on the maximum global aggregate royalties they would pay. This would be tantamount to price fixing of input costs and buyers cartel. Even if such coordination is not allowed, by individually submitting their maximum royalty expectations which are made with the goal of minimising input costs, implementers might attempt to devalue SEP royalties. Due to their sheer size, which is much higher than the number of SEP owners, the position of implementers might have an outsized influence on conciliators preparing an expert opinion. On the side of SEP owners, there are also no competition safeguards against the exchange of commercially sensitive information in the process of joint notification aggregate royalty rates in order to establish the value that devices derive from using the standardised technology.

Moreover, from a practical perspective, the usefulness of provisions is seriously questionable. The proposed Regulation appears to allow multiple groups of SEP owners to jointly notify their views. This may add even more confusion to standard implementers. For example, some SEP owners could announce an aggregate rate of \$10 per product, another 5% of the end-product price, while a third group would prefer a lower \$1 per-product rate. Moreover, it is unclear what difference the joint aggregate royalty rate notifications would bring to the existing practice of unilateral announcement of licensing terms. Already, many SEP owners publicly announced their royalty programs in advance, which was recognised by the Commission's studies.¹⁰⁴ To be on the safe side, SEP owners may simply notify their maximum preference, knowing that negotiations would lead to different prices depending on the unique background of various licensees. As a result, the aggregate royalty rates may not produce meaningful data points.

Non-binding expert opinions on global aggregate royalty rates may also add to the confusion. Implementers would likely initiate the process, which would then exist in parallel with SEP owners' joint notifications of aggregate rates. All these different and possibly conflicting estimates might lead to even greater uncertainty. Moreover, if people providing non-binding expert opinions are not universally regarded as experts, the parties are unlikely to respect such opinions.

Aggregate royalty notifications and non-binding opinions might be used in the top-down method for FRAND royalty determinations. A top-down method provides that the SEP owner should receive a proportional share in the total aggregate royalty of a standard. It requires establishing a cumulative royalty for a standard and *then* calculating the share in the total royalty to an individual SEP owner. This may be the reason for having aggregate royalty rate notifications and opinions. At the same time, essentiality checks are also needed to filter out which patents are truly essential and assess individual SEP owner's share.

It is a very bad idea to rely too much on the top-down approach for FRAND royalty determinations. It is not used in commercial-licensing negotiations. "Why not?", one asks. Surely licensors and licensees would use it if it made sense commercially. Moreover, courts have frequently rejected its application. Industry practice is to use comparable licensing agreements. The top-down approach was applied in *Unwired Planet v Huawei* only as a cross-check for the rates derived from comparable agreements.¹⁰⁵

¹⁰⁴ European Commission, *Impact Assessment*, p. 84-85.

¹⁰⁵ *Unwired Planet v Huawei* [2017] EWHC 711 (Pat), [2019] 4 C.M.L.R. 7.

TCL v Ericsson relied on this method but was vacated on appeal.¹⁰⁶ The most recent *Interdigital v Lenovo* judgment considered and rejected its use, finding “no value in Interdigital’s Top-Down cross-check in any of its guises.”¹⁰⁷ Moreover, the top-down approach, as currently applied, relies only on patent counting and does not take into account that not every patent has the same value nor that some patent may be invalid or not infringed by a specific device. Crucially, the top-down approach and aggregate royalty notifications/opinions would be related to *global* FRAND royalties, while the registration of SEPs and corresponding essentiality checks are limited only to EU SEPs. In other words, the SEP Regulation has extraterritorial effects. The consequences will be discussed below.

Circumventing the proposed Regulation by litigating outside of the EU

As a result of the high costs that would be imposed by the proposed Regulation and the likely delays caused by mediation or conciliation, SEP owners may decide to enforce their patents outside the EU in countries like the UK, the US, China and India, all of which have had SEP litigation. This way, the application of the proposed Regulation could be completely avoided.¹⁰⁸ Indeed, the President of the Court of Appeal of the Unified Patent Court, Judge Klaus Grabinski went out of his way to say just that at the opening ceremony of the Court in Luxembourg.¹⁰⁹ In truth, the proposal is statement of a lack of faith that the new Court (or indeed any court) can do their job.

Already the evidence shows that SEP litigation in China is rising, while the US was traditionally a place for SEP litigation, and which may see an increase in cases again should Europe become an unattractive option.¹¹⁰ The UK is also a major forum which witnessed important cases that clarified the many aspects of FRAND licensing. Europe has built an impressive case law implementing the *Huawei v ZTE* judgment and clarified the steps in good-faith licensing negotiations.

If and when the proposal is adopted, the EU will likely be left behind in shaping global SEP licensing practices by shifting the litigation to other countries.

Compatibility with fundamental rights and TRIPS

The proposed Regulation raises significant concerns regarding the compliance with fundamental rights to property and access to justice, enshrined in the European Convention on Human Right and the EU Charter of Fundamental Rights.¹¹¹ Provisions that prohibit the enforcement of SEPs, the collection of royalties or the seeking of damages, until the registration before the EUIPO would be a significant limitation of the right to property of patent owners. Similarly, the preclusion of the enforcement of SEPs until the registration of a SEP and after the conclusion of a mandatory FRAND determination significantly undermines the right to access to justice. For the same reasons, the proposed Regulation might be incompatible with the TRIPS Agreement.

The Commission in the Impact Assessment asserts that limitations are justified because they are limited, necessary, and are in the public interest.¹¹² However, one may not be entirely persuaded with these points.

¹⁰⁶ *TCL v Ericsson*, Case No. 8:14-cv-003410JVS-DFM (C.D. Cal. 2018); *TCL v Ericsson*, 943 F.3d 1360 (Fed. Cir. 2019)

¹⁰⁷ *Interdigital v Lenovo* [2023] EWHC 539 (Pat) at [733].

¹⁰⁸ The proposal requires from patent owners to register SEPs if they want to litigate them against infringers in the courts of Member States (Proposed Regulation, art 20(1)). Patent owners may simply decide to litigate outside the EU and, as a result, do not register SEPs and completely avoid conducting essentiality checks and going into mandatory FRAND determinations.

¹⁰⁹ Rory O’Neil, , ‘Breaking: UPC Chief Urges EU to Rethink SEP Plan’ (30 May 2023) *ManagingIP*, <<https://www.managingip.com/article/2bqbfr0uyrki1fniy9ou8/breaking-upc-chief-urges-eu-to-rethink-sep-plan>>.

¹¹⁰ Justus Baron, et al, *Empirical Assessment of Potential Challenges in SEP Licensing*, p 110.

¹¹¹ Charter of Fundamental Rights of the European Union, arts 17 and 47.

¹¹² European Commission, *Impact Assessment*, pp 48-49.

Limitations “limited?

To forbid a patentee, unless it undergoes a prior bureaucratic and expensive prior procedure,¹¹³ from enforcing its rights against an infringer – a wrongdoer – is a very serious matter. It impedes access to justice significantly. Encouraging hold-out and continuance of illegal trade, making patentees pay fees for essentiality checks,¹¹⁴ registering their declared SEPs (which will already be ascertainable from the relevant SDO register) is no small matter.

One can test the point by an example. Suppose an SEP holder who has not gone through the hoops of registering an SEP and an essentiality test just sues an implementer in a national court or the UPC. What is to happen? Suppose the implementer (or the Commission by way of intervention) asks the Court to stay the proceedings—to deny early justice. The court could well refuse, citing the ECHR or the EU Charter of Fundamental Rights. And particularly so if the implementer has been holding out so long that any further delay would mean that the older part of the claim for damages would be statute-barred.¹¹⁵

Necessary?

It is difficult to see how such serious limitations to patent rights and access to courts are necessary. First, the Commission fails to recognise the SEP system of standard setting is worldwide. Piecemeal regulations targeted only at the EU will not solve anything, while attempting to impose global solutions may well be met with resistance from other countries. Neither is there any attempt to show that other major countries are finding any problems requiring intrusive regulation of the kind proposed. Secondly, as regards the EU, the Commission bases part of its reasoning on the fact that, in particular cases, different national courts between differing parties have adopted different approaches to SEP royalty rate determinations. This is a weak point indeed. It overlooks that the courts concerned were considering different cases between different parties and almost certainly working on different evidence and different arguments. Thirdly, even if there were real differences in outcome between national courts the Commission has ignored the fact that we now have the UPC whose jurisdiction is so wide that in practice it could and would resolve the matter.¹¹⁶

In the public interest?

There are two broad matters which surely should have had top priority. First, would implementation of the proposal result in cheaper devices for the public? Secondly, how would the proposal affect investment in innovation in standards? Neither of them are addressed head-on by the Commission.

In respect of lower consumer prices, it is a striking fact that the Commission has failed to consider the effect if any on the prices consumers pay for the technology, such prices being of course built into the implementers' costs. Still less has the Commission even begun to prove that the proposals would lead or even be likely to lead to lower consumer prices.

The evidence is, in fact, the other way around in that price reduction is unlikely. Consider the paradigm case of cellular communication devices – mobile phones. It is important to realise that the royalty element of the ultimate consumer price is but a small part of it. The retail price of such devices varies quite a lot depending on the features made available. There are up market devices costing more than £1,000

¹¹³ The essentiality checks will take time and will be expensive. The Commission has also ignored the fact that essentiality with a standard (used by all as a proxy for determining whether there is infringement) is only one issue – validity is in practice much more important : experience shows that where an implementer succeeds in court the a finding of invalidity is much commoner than one of inessentiality. .

¹¹⁴ In some countries, such as Italy, patent infringement is indeed a criminal act as well as a civil wrong. The proposal fails to consider this at all.

¹¹⁵ The term for limitation of old claims is a matter for national law and varies from state to state. In England and Wales it is 6 years (with some exceptions). Some other states have shorter periods. In France, for example, it is 5 years. In Germany it is 3 years.

¹¹⁶ One can fairly say that it is astonishing that there is no mention of the UPC throughout the whole Proposal.

ranging down to around £200. The cost of the SEPs may vary but there is almost surely a royalty cap: an SEP holder does not get more for diamond encrusted phone! One study found that the average cumulative royalty per phone was \$7.2.¹¹⁷ That may be too low, judging by the Avanci rate for cars of \$20. But it is unlikely to be more than \$30. The proposal could hardly change that much without a serious effect on the income of SEP holders and innovators. Moreover, if implementers had to pay a little less royalty there is no guarantee that they would pass that on. Why should they? The fact that implementers fight hard for lower royalties itself indicates they want the money. They wouldn't fight if it were not in their own interest.

As to the effect on innovation it seems wholly improbable that it would do anything to incentivise it. As we have noted above all the costs are thrown on the SEP holders. If nothing else changed innovation would become less profitable rather than more so. And there is nothing in the proposal which suggests a realistic beneficial effect for SEP holders. The Commission thinks somehow they will benefit from the proposed system by way of saving transaction costs. That is wholly improbable. The idea seems to be based on the notion that SEP holders benefit because they will not have to negotiate separate transactions: the implication being that is what happens now. But it does not. Negotiations are about world-wide licences anyway, not even just the Europe or the EU. Moreover, transactions between big players will often involve more than just SEP licences: cross licences and non-SEPs for instance. A much more likely effect is even longer delay—the proposal seems likely to enhance hold-up.

Finally, we should mention the possibility that the proposed Regulation is contrary to TRIPS. Article 41 provides:

“Members shall ensure that enforcement procedures as specified in this Part are available under their law so as to permit effective action against any act of infringement of intellectual property rights covered by this Agreement, including expeditious remedies to prevent infringements and remedies which constitute a deterrent to further infringements. These procedures shall be applied in such a manner as to avoid the creation of barriers to legitimate trade and to provide for safeguards against their abuse.”

Precluding a patent owner from suing an infringer whilst a body not of the parties' choosing devises what it thinks is an appropriate royalty rate may well be an unwarranted interference to “effective action.” And all the more so where “expeditious remedies” are precluded.

The geopolitical effects

As currently drafted, the proposed Regulation has extraterritorial effects, which may lead to unintended consequences. It applies to SEPs in force in one of the EU Member States. Such SEPs should be registered before the SEP Register and will be subject to essentiality checks. This is in accordance with the principle of territoriality. However, the proposed Regulation then provides that a non-binding expert opinion will relate to a *global royalty* rate, and FRAND determination shall concern a *global* FRAND license (unless otherwise specified by the parties). In other words, while SEP Register and essentiality checks apply only for patents in force in the EU Member States, aggregate royalties and FRAND determination will be worldwide, covering portfolios in other countries.

The extraterritoriality may lead to three effects. First, if the SEP register and the result of essentiality checks of EU SEPs are used in global aggregate royalty and FRAND determinations, they will produce inaccurate results. Some patent owners may focus on the US and US-based SDOs and do not patent as much in Europe. And there may also be many SEPs in China and other Asian countries that do not have

¹¹⁷ Galetovic, Haber and Zaretski, ‘An Estimate of the Average Cumulative Royalty Yield in the World Mobile Phone Industry: Theory, Measurement and Results’ (the estimate was based on 2016 data); also Mallinson, K., ‘Cumulative Mobile SEP Royalties’ (19 August 2015) and Sidak ‘What Aggregate Royalty Do Manufacturers of Mobile Phones Pay to License Standard-Essential Patents?’ (estimating the aggregate royalty for 2G, 3G, and 4G standards that implementers paid in 2014 to be between 4% to 5% of global handset revenues).

their European counterparts.¹¹⁸ It is a euro-centric view to assume that European SEPs are a sufficient basis to determine global aggregate and FRAND rates. The Commission's Impact Assessment even notes that the EU's share of SEPs is only 15%, compared to US and Korea's share of 19% and China's 30%.¹¹⁹

Second, while it is true that standards are global and commercial practice is to license globally, it is a different matter when legislation requires its institutions to adopt measures with extraterritorial effects. Conciliators determining global aggregate and FRAND rates would indirectly rule on foreign portfolios held by foreign companies. Other countries will not look at it favourably.

The third and principal unintended consequence is that other countries may introduce similar regulations. They could easily justify their action as a simple "best practice" from Europe. Imagine a situation if similar regulations are adopted by other countries - requiring notification of national SEPs, conducting local essentiality checks, determining global aggregate royalty rates for a standard and setting global FRAND licensing terms. It would effectively transfer SEP disputes from courts into the hands of national regulators. Moreover, the costs to SEP owners for enforcing SEPs would be compounded since they would need to notify and pay for essentiality checks in multiple countries. The effects on innovation incentives and participation in collaborative standardisation by the increased costs of SEP enforcement and licensing would need to be assessed. A radically changed and fragmented SEP licensing environment would also lead to even more uncertainty for both SEP owners and implementers.

A SEP regulation implemented by other countries might easily backfire and could be used as a strategic tool to devalue the royalties of innovative European SEP owners. China might be especially receptive to the idea of regulating SEP licensing. Barnett evidenced how China strategically deployed competition and patent law to reduce royalties for SEPs held by foreign companies to the benefit of domestic manufacturers.¹²⁰ The EU has also launched a complaint before the WTO against China's practice of issuing wide anti-suit injunctions preventing the enforcement of SEPs in other jurisdictions.¹²¹ Instead of using competition and patent law, a regulation similar to the one proposed by the European Commission could attain the same industrial policy and protectionist aims.

Taken together, the Commission's proposal makes licensing SEPs more costly, provides solutions that are likely to prove unworkable in practice and risks spill-over of similar regulations by other countries, which might be detrimental to European SEP owners and innovation.

Market-based alternatives to the proposed Regulation

There are measures which could be introduced which are a better alternative to the proposed Regulation. Consistent with the principle that extensive regulatory intervention might not be necessary or proportionate if the aims could be achieved with less costly instruments, small changes in the institutes of private ordering might improve the existing system in a cost-effective and balanced way. However, if regulatory action is to be pursued, then the application of the proposed Regulation could be limited at first to only a few selected standards and/or use cases to tests its effects.

A pledge from SEP owners not to assert SEPs against SMEs.

¹¹⁸ Florian Von Mueller, 'EU-only SEP Register Can't Serve as a Basis for Global FRAND Determinations: Proposed EU Regulation on Standard-Essential Patents Suffers from Incongruent Provisions', 4 June 2023 *FossPatents*, <<http://www.fosspatents.com/2023/06/eu-only-sep-register-cant-serve-as.html>>

¹¹⁹ European Commission, *Impact Assessment*, p.8.

¹²⁰ Jonathan Barnett, 'Antitrust Mercantilism: The Strategic Devaluation of Intellectual Property Right in Wireless Markets' (2023) *Berkeley Journal of Law & Technology* (forthcoming); also see Jeanne Suchodolski, Suzanne Harrison and Bowman Heiden, 'Innovation Warfare' (2020) 22 *North Carolina Journal of Law & Technology* 175.

¹²¹ *DS611: China-Enforcement of Intellectual Property Rights*

According to the Commission, the majority of standard-implementers are SMEs.¹²² They are currently *de facto* not licensed since the transaction costs apparently outweigh the expected licensing revenues. They will remain unlicensed until they achieve sufficient scale on the market for the licensing to become profitable. Nevertheless, there is some evidence that a small number of SMEs have a licence, but we do not have the information on how many and which SEP owners licensed those SMEs.¹²³

The situation for SMEs is thus characterised by uncertainty. While most SMEs will not be approached for a license, a small number might still be targeted by some SEP owners. Those SMEs that took a licence would be disadvantaged in comparison with the majority of unlicensed SMEs. Additionally, SMEs are uncertain at what point they would be considered as sufficiently large to trigger the interest of SEP owners.

A private ordering solution could be for SEP owners to give a binding pledge not to enforce SEPs against SMEs. The Commission might investigate how much support such a measure has with SEP owners. Such a pledge could be given to relevant SDOs and made public. For the avoidance of doubt, a definition of an SME should also be provided. For example, the Commission considers an entity an SME if it has less than 250 employees and a turnover of no more than €50 million or a balance sheet of no more than €43 million.¹²⁴ Other definitions could also be considered. For instance, there may be successful companies in the IoT that have fewer employees but generate large turnover and capture a significant share of the relevant market. In any event, a clear threshold should be set so that companies may know in advance at what point they would need to take a license and might expect to be approached by SEP owners.

The downside of such a binding pledges is that SMEs represent an important part of the market. As mentioned, 84% of standard-implementers in the EU are estimated to be SMEs. While it might not be profitable to license them individually, collectively, they may generate significant royalties. Thus, SEP owners would be renouncing a potentially substantial royalty income. A better option might be to consider ways to simplify and reduce the costs of licensing to SMEs.

SME License Purchasing Groups

One way for SMEs to get licensed simply and efficiently is to form special License Purchasing Groups (LPGs).¹²⁵ LPGs would collect SMEs up to 15-20% of the relevant market, and an LPG administrator experienced in patent licensing will take care of licensing negotiations on behalf of member SMEs. This option would simplify licencing for SMEs and reduce transaction costs for both sides. SEP owners would negotiate with just one entity and, with one license, could cover hundreds or thousands of SMEs that are not profitable to license individually. On the other hand, SMEs will delegate licensing negotiations to experienced professionals and will be ensured that they will receive a license on the same terms as other SMEs in the LPG.

It is important to note that this proposal differs from Licensing Negotiations Groups (LNG) suggested by the SEP Expert Group, which raise serious competition law risks and may be considered a façade for a buyers' cartel among implementers.¹²⁶ In the LPG, there will be no discussions of the prices of products, profit margins, market shares, the maximum amount of royalty and licensing level. The tasks

¹²² European Commission, *Impact Assessment*, p. 11 (84% of EU-based standard implementers are SMEs).

¹²³ European Commission, *Impact Assessment*, p. 67.

¹²⁴ Recommendation concerning the Definition of Micro, Small and Medium-Sized Enterprises [2003] OJ L 124, p 36.

¹²⁵ Rudd Peters, Igor Nikolic and Bowman Heiden, 'Designing SEP Licensing Negotiation Groups to Reduce Patent Holdout in 5G/IoT Markets' in Jonathan Barnet and Sean O'Connor (eds), *5G and Beyond: Intellectual Property and Competition Policy in the Internet of Things* (Cambridge 2023).

¹²⁶ Group of Experts on Licensing and Valuation of Standard Essential Patents, 'Contribution to the Debate on SEPs' (2021) <<https://ec.europa.eu/docsroom/documents/45217>>; for commentary, see Igor Nikolic, 'Licensing Negotiations Groups for SEPs: Collusive Technology Buyers Arrangements? Their Pitfalls and Reasonable Alternatives' (2021) *Les Nouvelles* 350.

of the LPG administrator are only to check if an SME needs a license (i.e. if it produces standard-implementing products) and negotiate a license with individual SEP owners and pools based on their licensing programmes. In licensing negotiation, the LPG administrator would ensure that LPG members receive an appropriate volume discount so that SMEs would not be disadvantaged in comparison with larger companies that have significant volumes; guarantee that members comply with reporting obligations and royalty payments in order to qualify for a discounted rate for compliance; and attempt to negotiate a discount on past sales. If an SME that is a member of LPG does not accept a license negotiated by the LPG administrator, it would be considered an unwilling licensee, and the SEP owner might be able to sue and obtain an injunction in accordance with *Huawei v ZTE*.

Therefore, with appropriate competition safeguards and mechanisms against holdout, LPGs might be a vehicle for SMEs to receive a license in an efficient, inexpensive, and secure manner and for SEP owners to cover the whole market, which is currently untapped because of the unprofitability of bilateral licensing with SMEs.

Support the formation of IoT patent pools

Patent pools may be an effective solution for IoT use cases characterised by many implementers and where no-cross licensing is involved. Already Avanci and Sisvel are preparing and modelling new licensing programs for different IoT applications. Patent pools would resolve much of the Commission's concerns about transparency: it provides certainty that truly essential patents are included in a pool. And if a large number of SEP owners accept the pool, it serves as a *de facto* aggregate royalty rate for a standard.

The Commission might explore ways to assist the creation of pools. The first step may be to initiate a dialogue with patent owners and pool administrators to understand what help they may need in setting new licensing programmes. Then concrete measures could be taken to incentivise and support pool formation. For example, the setting-up costs of a pool are often substantial,¹²⁷ and the Commission might consider subsidising initial essentiality checks of patents included in a pool, which would be repaid after the pool starts generating licensing revenues.

Limit the scope of Regulation to just a few standards and use cases to test the environment

If the proposed Regulation is to be adopted in the present shape—which would be a mistake—its scope of application could be limited to only a few selected standards and/or use cases to which the Commission has evidence of what it believes to be licensing inefficiencies, and which would serve as a real-world test of the usefulness of new regulatory measures. This way, it may be observed in real-time how regulatory measures will be applied in practice and their effects on SEP licensing markets. After evaluating their effectiveness, the application of the proposed regime might be expanded to include other standards where licensing inefficiencies have been identified, or it may be changed or completely repealed if the solutions proposed by the Regulation prove to be ineffective, burdensome, and costly as predicted.

Conclusion

The proposed Regulation of the European Commission would radically change the current system of SEP licensing. There is no sound evidence of market failures in SEP licensing markets justifying the intrusive regulatory oversight. In fact there is quite the opposite, the mobile telecommunication sector, which is alleged to be the most problematic, is seeing continuous growth, innovation, and market entry. The incidence of SEP litigation is low and has been declining over the years.

The proposal unevenly distributes all the benefits to implementers and costs to SEP owners, raising the costs of licensing even further. Its wide scope will capture all standards licensed on FRAND terms, despite not establishing with a sufficient degree of certainty that all these standards are problematic. The increased costs of enforcing SEPs may shift the litigation away from Europe to other parts of the

¹²⁷ Robert Merges and Michael Mattioli, 'Measuring the Costs and Benefits of Patent Pools' (2017) 78 *Ohio State Law Journal* 281.

world – the US, UK, China, and India. European courts have built, over the years, impressive case law clarifying the contents of FRAND license and good-faith licensing negotiations. It would be a shame to see the European Union and its Member States lose their place in influencing the future SEP licensing framework. Crucially, other countries may be inspired by the Commission’s proposed Regulation and decide to adopt similar regulatory regimes. Such a scenario would effectively transfer SEP disputes from courts into the hands of national regulators. A regulation implemented by other countries might easily backfire and could be used for protectionist purposes and as a strategic tool to devalue the royalties of innovative European SEP owners. Instead of pursuing regulatory oversight, private ordering solutions may provide cost-effective and balanced means to improve the current licensing environment.