

Comments Regarding the Draft Regulation on Standard Essential Patents

*European Commission, (EU) 2017/1001, COM (2023) 232
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I. Introduction

On 27 April 2023, the European Commission published its Proposal for a Regulation on Standard Essential Patents (“SEP Regulation”). The proclaimed aims of the SEP Regulation are to: 1. ensure that end users, including small businesses and EU consumers, benefit from products based on the latest standardised technologies; 2. make the EU attractive for standards innovation; and 3. encourage both SEP holders and implementers to innovate in the EU, make and sell products in the EU, and be competitive in non-EU markets.¹

We are grateful for the opportunity to provide comments on the proposed SEP Regulation in the context of public feedback. The following is a summary of our observations:

1. The available evidence does not demonstrate the existence of a market failure in SEP-licensing markets that would justify regulatory oversight. Instead, the Commission’s own evidence points to the low incidence of SEP litigation and no systemic negative effects on SEP owners and implementers. The mobile-telecommunication market—which is claimed to have the most SEP litigation and licensing inefficiencies—has over the years seen rapid growth, expansion, declining consumer prices, and new market entry.
2. Some market imperfections are necessary-but-not-sufficient conditions for regulatory intervention. Regulation might not be necessary or proportionate if its aims could be achieved with less costly instruments.
3. The proposed SEP Regulation appears to pursue the value-redistributive function of imposing costs on only one group (SEP owners), while accruing all benefits to non-EU-based standard implementers. It is difficult to find justification for such value redistribution from the evidence presented on the functioning of SEP licensing markets.
4. The proposed SEP Regulation applies to all standards licensed on FRAND terms. It is unclear how many standards will be caught and why all standards licensed on FRAND terms are presumed to be inefficient, requiring regulatory intervention. One early study identified 148 standards licensed on FRAND terms in a 2010 laptop. No evidence was presented that licensing inefficiencies of these standards caused harms in laptop markets.
5. Evaluators and conciliators need to be qualified and experienced experts in relevant fields. There are unlikely to be enough evaluators to conduct essentiality checks reliably on such a massive scale.
6. The proposed SEP Regulation raises competition concerns, as it may allow implementers to exchange sensitive commercial information that could lead to a buyers cartel.

¹ European Commission, Explanatory Memorandum for 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 (“Explanatory Memorandum”).

7. Aggregate royalty-rate notifications and nonbinding expert opinions on global aggregate royalty rates may not produce meaningful inputs and may lead to even more confusion for implementers.
8. The proposed SEP Regulation has extraterritorial effects. While the SEP Register and essentiality checks apply only for patents in force in EU Member States, a nonbinding opinion on aggregate royalties and FRAND determination will be worldwide, covering portfolios in other countries.
9. Other countries may follow and introduce their own regulations on SEPs. Such regulations may be used as a strategic and protectionist tool to devalue the royalties of innovative European SEP owners. The proliferation of regulatory regimes would make SEP licensing even more costly, with unknown effects on the viability of the current system of collaborative and open standardisation.

Considering the above, it is our view is that the proposed SEP Regulation, in its current form, is unnecessary, disproportionate, and likely to harm both European innovators and Europe's technology leadership on a global stage.

Nevertheless, this is not to say that the SEP licensing framework cannot be further refined and simplified. It may be possible to find solutions that might improve the existing system in a cost-effective, balanced, and efficient way. We propose some private ordering instruments as an alternative to regulation, which could be used to make licensing in the Internet of Things ("IoT") more efficient and transparent.

II. No Evidence of a Market Failure Justifying Regulatory Intervention

The current system of SEP licensing consists of bilateral negotiations and collective licensing via patent pools. The overwhelming majority of licensing agreements are concluded amicably,² but in cases where parties cannot agree, litigation may become necessary.³ This is, of course, a feature of commercial disputes of all kinds.⁴ Over the years, courts have proven more than capable of resolving various contentious questions about SEPs. For instance, they gave promulgated guidance regarding if and under what conditions the SEP owner can request and obtain an injunction for infringement of an SEP;⁵ what the FRAND rate between the parties ought to be;⁶ the scope of a FRAND license, whether global or national;⁷ the meaning of a FRAND

² Justus Baron, Pere Argue-Castells, Armandine Leonard, Tim Pohlman, & Eric Sergheraert, *Empirical Assessment of Potential Challenges in SEP Licensing*, EUROPEAN COMMISSION (2023), p. 112.

³ 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").

⁴ Adapting Carl von Clausewitz's aphorism: "Litigation is the continuation of negotiation by other means."

⁵ C-170/13 *Huawei v ZTE*, ECLI:EU:C:2015:477

⁶ *Unwired Planet v Huawei* [2017] EWHC 711 (Pat).

⁷ *Sisvel v Haier*, KZR 36/17 Federal Court of Justice (05 May 2020)

commitment's non-discrimination requirements;⁸ whether FRAND commitments require SEP owners to offer licenses at different levels of the production chain;⁹ and how to adjudicate 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 a licensing agreement).¹⁰ The Court of Justice of the European Union (CJEU) provided a framework in *Huawei v ZTE* for good-faith license negotiation. Courts of the EU Member States have subsequently become accustomed to evaluating the conduct of both parties and have produced substantial case law and guidance on the contents of good-faith licensing negotiations.¹¹

Despite 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 per-licence bilateral negotiation costs for the SEP holder and implementer are estimated to be between €2 million and €11 million.¹² The Commission asserts that licensing uncertainties follow from insufficient transparency of SEP ownership and essentiality, lack of information about FRAND royalties, and a dispute system not adapted for FRAND determination.¹³ That system is said to be dissatisfactory for both parties.

The Commission maintains that SEP owners face long negotiations and high costs of licensing.¹⁴ To better assess the value that the technology brings to standard implementations, an SEP owner would have to wait several years (on average, between two and four) until the standard is implemented in the market and then approach companies with an offer to license.¹⁵ Negotiations would then ensue, taking about three years. If no agreement is reached, litigation would add another one to two and a half years.¹⁶ During all this time, the SEP owner would not receive any royalties for use of its technology. According to the Commission, this may explain

⁸ *Unwired Planet v Huawei*; *Huawei and ZTE v Conversant* [2020] UKSC 37; *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).

⁹ *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).

¹⁰ See, *Sisvel v Haier*, KZR 36/17 Federal Court of Justice (05 May 2020), 61 (that implementers should not engage in patent holdout by exploiting the structural disadvantage, which SEP holders face due to the limitation of their rights to assert patents in court); *Optis v Apple* [2022] EWCA Civ 1411, 115 ("Apple's behaviour Could well be argued to constitute a form of hold out ... while Optis' contention ... would open the door to holdout"); *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 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.")

¹¹ An electronic database of court cases implementing *Huawei v ZTE* is available at: <https://caselaw.4ipcouncil.com/guidance-national-courts>.

¹² Impact Assessment p. 13.

¹³ *Id.* at 17.

¹⁴ *Id.* at 14.

¹⁵ *Id.* at 12.

¹⁶ *Id.* at 12.

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.¹⁷ Thus, 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.¹⁸

On the other hand, the Commission says that implementers face uncertainty about the costs of using standards, potentially discouraging them from implementing new technologies.¹⁹ Implementers who take a licence are also worried about being disadvantaged against their unlicensed foreign competitors.²⁰ 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 seems to have not taken into account that this holdout is not only real, but is the most egregious example of anticompetitive behaviour.

The second supposed problem is the growing IoT market that increasingly uses technological standards from the information and communications technology (“ICT”) industry.²¹ IoT markets are fragmented; 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 major concern is the protection of small and midsize enterprises (“SMEs”). According to the Commission, SMEs lack the resources to negotiate with SEP owners on an equal footing or to engage in court proceedings.²² They also do not have sufficient licensing expertise. 84% of EU-based standard implementers are SMEs, totalling about 3,192 companies.²³

The publicly available evidence relayed by the Commission, however, does not justify any significant concern with the current SEP-licensing system, much less a concern of such magnitude to justify extensive regulatory intervention. In fact, the Commission’s study found that high transaction costs and licensing uncertainties have not led to increased litigation or systemic negative effects.²⁴

First, the Commission found that the volume of SEP-litigation cases has been relatively stable in Europe, while falling in the United States but increasing in China.²⁵ In recent years, the share of declared SEPs subject to litigation has declined.²⁶ They further showed that the prevalence of SEP litigation is low and has not increased over time. According to the study, there are fewer

¹⁷ *Id.*

¹⁸ *Id.* at 16.

¹⁹ *Id.* at 14.

²⁰ *Id.* at 16.

²¹ *Id.* at 23.

²² *Id.* at 17.

²³ *Id.* at 11.

²⁴ Baron *et al.*, *supra* note 2.

²⁵ *Id.* at 109-110

²⁶ *Id.* at 110

than 0.05 lawsuits per-license involving major SEP licensors and patent pools.²⁷ 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 standards development.²⁸ The econometric evidence suggests that a significant share of contributions to standards development relies on patent-related incentives, indicating the importance of preserving innovation incentives for the success of the standards-development process. On the implementation side, 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 standards implementation.²⁹

The evidence from the mobile-telecommunications market, which some believe is hindered by SEP-licensing inefficiencies, demonstrates that it is functioning particularly well, with year-to-year increased output, lower prices, increased market entry, and billions of euros of investment in research and development (R&D) for connectivity standards and the rollout of new network infrastructure.³⁰ For 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 global gross domestic product, and directly and indirectly supporting 28 million jobs.³¹ In Europe, subscriber penetration was 90%, and smartphone adoption was 81%.³² By 2035, the impact of 5G is projected to grow to \$13.2 trillion in global economic output, and the global 5G value chain will generate \$3.6 trillion in economic output.³³ Moreover, 5G is expected to add up to €1 trillion to European GDP by 2025.³⁴ In comparison, the total estimated revenue from cellular SEP licensing was estimated to be less than 0.5% of the mobile economy.³⁵ 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 \$9.60.³⁶

²⁷ *Id.* at 108, 112.

²⁸ *Id.* at 164.

²⁹ *Id.* at 164.

³⁰ For some of the voluminous literature, see: Alexander Galetovic, Stephen Haber, & Ross Levine, *An Empirical Examination of Patent Holdup*, 11(3) JOURNAL OF COMPETITION LAW & ECONOMICS 549 (2015); Keith Mallinson, *Don't Fix What Isn't Broken: The Extraordinary Record of Innovation and Success in the Cellular Industry Under Existing Licensing Practices*, 23 GEORGE MASON LAW REVIEW 967 (2016); David Teece, *The "Tragedy of the Anticommons" Fallacy: A Law and Economics Analysis of Patent Thickets and FRAND Licensing*, 32 BERKELEY TECHNOLOGY LAW JOURNAL 1490 (2017); J. Gregory Sidak, *Is Patent Holdup a Hoax*, 3 CRITERION JOURNAL ON INNOVATION 401 (2018); Alexander Galetovic, Stephen Haber, & Lew Zaretski, *Is There an Anti-Commons Tragedy in the Smartphone Industry*, 32 BERKELEY TECHNOLOGY LAW JOURNAL 1527 (2018); Daniel F. Spulber, *Licensing Standard Essential Patents with FRAND Commitments: Preparing for 5G Mobile Telecommunications*, 18 COLORADO TECHNOLOGY LAW JOURNAL 79 (2020); Dirk Auer & Julian Morris, *Governing the Patent Commons*, 38(2) CARDOZO ARTS & ENTERTAINMENT LAW JOURNAL 291 (2020).

³¹ *The Mobile Economy*, GSMA (2023), available at <https://www.gsma.com/mobileeconomy/wp-content/uploads/2023/03/270223-The-Mobile-Economy-2023.pdf>.

³² *Ibid.*

³³ *The 5G Economy: How 5G Will Contribute to the Global Economy?*, IHS MARKET (2019).

³⁴ *The Impact of 5G on the European Economy*, ACCENTURE (Feb. 2021).

³⁵ Bowman Heiden, Jorge Padilla, & Ruud Peters, *The Value of Standard Essential Patents and the Level of Licensing*, 49(1) AIPLA QUARTERLY JOURNAL 1, 5-6 (2021).

³⁶ Alexander Galetovic, Stephen Haber, & Lew Zaretski, *An Estimate of the Average Cumulative Royalty Yield in the World Mobile Phone Industry: Theory, Measurement and Results*, 42 TELECOMMUNICATIONS POLICY 263 (2018); Keith Mallinson,

As to potential licensing problems in the IoT, we have 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 whether 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 various IoT sectors.³⁷ 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, cellular IoT devices represented only 20% of mobile phones in 2022, which is expected to grow to 60% by 2030.³⁸ As such, while licensing in the IoT may generate significant revenues, we do not at the moment have sufficient information on how many IoT devices are currently licensed.

We may observe, however, 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.³⁹ It has a licensing programme for car manufacturers and has more than 120 million licensed connected vehicles.⁴⁰ 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 for vehicle manufacturers with a single per unit-license of \$20 per vehicle—less than a parking ticket. According to some estimates, Avanci successfully covers more than 80% of the market.⁴¹ It may be said that SEP licensing in the automotive sector has been successfully concluded, despite the initial reluctance of car manufacturers and disputes about the appropriate level of licensing.⁴²

In another example, Sisvel, a patent-pool administrator, experimented with a novel payment mechanism to address concerns that companies that 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.⁴³ 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 the Avanci and Sisvel pools demonstrates that SEP owners are adjusting to the changed market realities and looking for ways

Cumulative Mobile SEP Royalties (19 Aug. 2015); J. Gregory Sidak, *What Aggregate Royalty Do Manufacturers of Mobile Phones Pay to License Standard-Essential Patents?*, 1 CRITERION JOURNAL OF INNOVATION 701 (2016).

³⁷ The Commission noted that SEP royalty payments in the mobile-telecommunications industry generate between EUR 14–18 billion per year (see Impact Assessment, *supra* note 3, at 9).

³⁸ Raphaël De Coninck, Christoph von Muellern, Samuel Zimmermann, & Kilian Müller, *SEP Royalties, Investment Incentives and Total Welfare*, CRA STUDY 2022, (2022), at 18-19.

³⁹ <https://www.avanci.com>.

⁴⁰ Avanci Vehicle 4G, <https://www.avanci.com/vehicle/4g>.

⁴¹ Victoria Waldersee & Supantha Mukherjee, *Automakers Tackle Patent Hurdle in Quest for In-Car Tech*, REUTERS (21 Sep. 2021), available at: <https://www.reuters.com/business/autos-transportation/automakers-tackle-patent-hurdle-quest-in-car-tech-2022-09-21>.

⁴² Igor Nikolic, *Injunctions Facilitate Patent Licensing Deals: Evidence from the Automotive Sector*, CPI COLUMNS INTELLECTUAL Property (Jun. 2022).

⁴³ LIFT: Accelerating Market Penetration and Levelling the Playing Fields, SISVEL (18 Jul. 2022), available at: <https://www.sisvel.com/blog/wireless-communications/lift-levelling-the-playing-field-for-early-licensees>.

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, it is difficult to draw such a conclusion from the available evidence. The Commission noted that most SMEs are *de facto* unlicensed because licensing costs outweigh potential licensing revenues.⁴⁴ To better 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.⁴⁵ That represents a sample of only 1.15% of the 3,192 SMEs that are reported to implement standards, making it impossible to draw general conclusions from such a limited sample. The question may be asked: if SMEs face licensing problems, why have they not expressed more interest in surveys? The only answer one can reasonably draw is that there is no problem. The SME survey shows *some* licensing; seven out of 37 SMEs had a license.⁴⁶ It would be interesting to know, however, which SEP owners approached and licensed SMEs, as well as the licensing policies of major SEP owners toward SMEs. We do not currently possess such information.

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 agreements. 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.

It is likely possible to improve the existing system in a cost-effective, balanced, and efficient way, including through private and public ordering instruments.⁴⁷ If the aims could be achieved with less costly instruments, extensive regulatory intervention might be neither necessary nor proportionate.⁴⁸ In other words, the existence of market imperfections is necessary but not sufficient conditions for regulatory intervention. Regulators should also be mindful not to fall into the “nirvana fallacy”, striving for ideal but unrealistic solutions that produce more costs than other feasible alternatives that may not lead to ideal results.⁴⁹

⁴⁴ Impact Assessment, *supra* note 3, at 17.

⁴⁵ *Id.* at 63, 68.

⁴⁶ Impact Assessment, *supra* note 3, at 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*, 51 RESEARCH POLICY 104600 (2022).

⁴⁷ Bowman Heiden & Justus Baron, *A Policy Governance Framework for SEP Licensing: Assessing Private Versus Public Market Interventions* (2021) available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3872493.

⁴⁸ Auer & Morris, *supra* note 30.

⁴⁹ Harold Demsetz, *Information and Efficiency: Another Viewpoint*, 12(1) THE JOURNAL OF LAW AND ECONOMICS 1 (1969).

III. Evaluating the Effects of SEP Regulation on SEP-Licensing Markets

While the Regulation pursues the worthwhile goals of increasing transparency and certainty to parties in SEP licensing, it is improbable that the proposed solutions will achieve those aims. This section raises several issues that should be considered in future policy discussions.

A. The Regulation's Value-Redistributive Function

The Regulation imposes unbalanced costs and benefits. According to the Impact Assessment, SEP owners will bear all the costs, while implementers will reap all the benefits.⁵⁰ The 10-year average approximate annual benefits for SEP implementers are estimated to be €24.4 million, while for SEP owners, the costs are €28.9 million. As such, the Regulation does not attempt to improve conditions for all actors (*i.e.*, pursue Pareto efficiency) but directly seeks to redistribute value from SEP owners to implementers. The Commission notes that a large part of SEP owners' costs would be due to an expected increase in patent fees, thanks to the anticipated rise in the number of patents.⁵¹ It adds that patent fees would represent revenue to European and national patent offices, making the whole system socially profitable.

The Commission recognised that it is difficult to predict the impact of SEP Regulation on royalty level. The Regulation's effects may go in two opposing directions: 1. potentially more firms taking a license (increasing implementation costs and income for SEP owners), or 2. potentially lower royalties paid (decreasing implementers' costs and SEP owners' income).⁵² The latter scenario would place even more costs on SEP owners. If royalty revenues fall and licensing costs of increase, an unintended but obvious consequence could be that SEP owners may no longer find collaborative standardisation attractive and might instead pursue proprietary solutions unencumbered by FRAND commitments. A fragmented global system would surely impede innovation.

The EU-based implementers will not even be among the primary beneficiaries of the Regulation's value-redistribution. According to the Commission's Impact Assessment, just 8% of potential manufacturing firms are in the EU. In other words, 92% of implementers are non-EU companies. The 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 evidence presented on the functioning of SEP licensing. In our view, any regulation should attempt to lead to better outcomes than the perceived harms it seeks to address.

⁵⁰ Impact Assessment, *supra* note 3, at 58.

⁵¹ *Id.*

⁵² *Id.* at 50.

B. The Regulation's Broad Scope

The Regulation has a very broad scope and applies to an unknown number of standards. Once it enters into force, the Regulation would catch all FRAND-committed SEPs.⁵³ It is not unclear why such broad scope is necessary. Concerns about SEP-licensing problems have focused overwhelmingly on just a few standards, mainly in cellular communication (3G, 4G, 5G) and Wi-Fi. Other standards licensed on FRAND terms have not been mentioned as potentially problematic. Nevertheless, the Regulation will apply to *all* standards licensed on FRAND terms.

The Commission noted that there were about 75,000 patent families of declared SEPs worldwide in 2021.⁵⁴ But we still lack information on how many standard developing organisations (“SDOs”) were analysed, nor the number of standards expected to be caught. An earlier 2010 study identified 251 technical-interoperability standards in a modern laptop, with 148 of those licensed under FRAND terms.⁵⁵ It is unclear why these 148 standards should be regulated, nor 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 regulations.

The Regulation offers some exceptions from its full application for a few standards deemed 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”.⁵⁶ In other words, there is a presumption that *all* standards with FRAND-licensing conditions are inefficient and affect the internal market's functioning, with the onus placed on stakeholders to rebut this presumption.

Even for such unproblematic standards, the exceptions are limited; only the provisions on conciliators facilitating the agreement on aggregate royalty rates, the nonbinding expert opinion on global aggregate royalty rates, and the mandatory FRAND determination will not apply.⁵⁷ The costliest obligations—i.e., the registration of SEP and annual essentiality checks—will continue to apply even for these standards.

C. The Need for Qualified-Expert Evaluators and Conciliators

The extent of the Regulation's reliability will depend on having qualified experts to work as evaluators and conciliators. Evaluators will need specialised knowledge of the particular technological area in which they will conduct essentiality checks. The Commission estimates that there are about 1,500 experts (650 patent attorneys and 800 patent examiners) qualified to do essentiality checks in the EU.⁵⁸

⁵³ Article 1(2) of the SEP Regulation.

⁵⁴ Impact Assessment, *supra* note 3, at 8.

⁵⁵ Brad Biddle, Andrew White, & Sean Woods, *How Many Standards in a Laptop? (And Other Empirical Questions)* (2013) available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1619440.

⁵⁶ Article 1(4) of the SEP Regulation.

⁵⁷ Article 1(3) of the SEP Regulation

⁵⁸ Impact Assessment, *supra* note 3, at 101.

The sheer magnitude of the task, however, will require many more evaluators and it is very doubtful that the optimal number of potential qualified experts are even available to join this process. For certain, special arrangements would need to be made with patent offices to grant patent examiners leave to conduct essentiality checks. Each year, evaluators will need to test a random sample of up to 100 SEPs if requested by each SEP owner or an implementer per standard. Thus, the amount of work may exponentially increase depending on how many standards are caught by the 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 also serving other clients. And why should they do it at all unless the rate of pay is at least what they could earn in a patent law firm? To be blunt, the work would not be as much fun as acting for real clients, so the pay would probably have to be even higher to attract applicants.

Consequently, it is very unlikely that the capability even exists to annually perform a large number of essentiality checks of registered SEPs. If the requirements to become an evaluator were relaxed to address this workload, this would cast doubt 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, the patent attorneys who most apt to be familiar with these technologies may well also find themselves with conflicts of interest. They will probably have worked for some SEP owners or implementers. Elaborate rules to avoid such conflicts would need to be implemented to prevent patent attorneys who were, or still are, engaged with certain clients from becoming evaluators of those clients' registered SEPs. The conflicts problem would, of course, apply not just to individual attorneys but to their entire firms.

Conciliators would also need to be experts in the field. They might come from the ranks of retired judges, seasoned former company officials, or experienced lawyers. Conflict-of-interest provisions should also ensure their independence and impartiality in mandatory FRAND determinations. But the job would, again, have to be sufficiently attractive, both in remuneration and in work content and culture. The Commission has made no investigation as to whether a sufficiently large pool of credible individuals could be found to make the system work.

Of course, there are well-established voluntary systems of conciliators and mediators, some of which are used now to help resolve FRAND disputes. But the proposal adds the idea of compulsory mediation or conciliation. There is scant evidence that either system works in other commercial disputes around the world, and it is unclear why it should be assumed to work here.

D. Competitive and Practical Concerns with Aggregate Royalty Rates

The Regulation also raises potential competition concerns. The participation of implementers in the process of providing expert opinion on global aggregate rates could be used as a vehicle

for a buyers cartel and could devalue FRAND royalty rates. Namely, it is unclear from the text of the Regulation if implementers will be allowed to coordinate their submissions to conciliators. If this is permitted, implementers could use the process to exchange commercially sensitive information and agree on the maximum global aggregate royalties they would pay. This would be tantamount to a buyers cartel, with price fixing of input costs. 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. Given that there are far more implementers than there are SEP owners, implementers might have an outsized influence on conciliators preparing expert opinions. The Regulation also lacks competition safeguards against the exchange of commercially sensitive information by SEP owners in the process of joint notification of aggregate royalty rates, which establish the value that devices derive from using the standardised technologies in question.

Moreover, from a practical perspective, the provisions' usefulness is questionable. The 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. Many SEP owners already publicly announce their royalty programmes in advance, which was recognised by the Commission's studies.⁵⁹ 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 details of various licensees. As a result, the aggregate royalty rates may not produce meaningful data points.

Nonbinding expert opinions on global aggregate royalty rates could 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 those providing nonbinding opinions are not universally regarded as "experts", the parties are unlikely to respect such opinions.

Aggregate royalty notifications and nonbinding 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 of a standard's total aggregate royalty. It requires: 1. establishing a cumulative royalty for a standard; and then 2. calculating the share in the total royalty for an individual SEP owner. This may be the reason for having aggregate royalty-rate notifications and opinions. At the same time, essentiality checks are still needed to filter out which patents are truly essential, and to assess each individual SEP owner's share.

We caution strongly against relying too much on the top-down approach for FRAND-royalty determinations. It is not used in commercial-licensing negotiations, and 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

⁵⁹ Impact Assessment, *supra* note 3, at 84-85.

from comparable agreements.⁶⁰ *TCL v Ericsson* relied on this method, but was vacated on appeal.⁶¹ 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”.⁶² Moreover, the top-down approach, as currently applied, relies only on patent counting. It does not consider that not every patent has the same value, nor that some patents 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 of which are discussed below.

E. Circumventing the Regulation by Litigating Outside the EU

As a result of the high costs imposed by the Regulation and the likely delays caused by mediation/conciliation, SEP owners may realistically decide to enforce their patents outside the EU, in such countries as the United Kingdom, the United States, China, and India—all of which have had SEP litigation. This would allow firms to avoid application of the Regulation entirely.⁶³ Judge Klaus Grabinski, president of the Court of Appeal of the Unified Patent Court, went out of his way to note just that at the Court’s opening ceremony in Luxembourg.⁶⁴ In truth, the Regulation constitutes a statement of lack of faith that the new Court (or, indeed, any court) can do their job.

The evidence already shows that SEP litigation in China is rising, while the United States—historically, a major venue for SEP litigation—may see a renewed increase in cases should Europe become an unattractive option.⁶⁵ The UK is also a major forum that has witnessed important cases clarifying many aspects of FRAND licensing.

For its part, Europe has built an impressive case law in implementing the *Huawei v ZTE* judgment and clarified the steps in good-faith licensing negotiations, but it could be left behind in shaping global SEP-licensing practices if the Regulation serves to shift litigation to other jurisdictions.

F. The Geopolitical Effects

As currently drafted, the SEP 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 with the SEP Register and will be subject to essentiality checks. This is in accordance with the principle of territoriality.

⁶⁰ *Unwired Planet v Huawei* [2017] EWHC 711 (Pat).

⁶¹ *TCL v Ericsson*, Case No. 8:14-cv-003410JVS-DFM (C.D. Cal. 2018); *TCL v Ericsson*, 943 F.3d 1360 (Fed. Cir. 2019)

⁶² *Interdigital v Lenovo* [2023] EWHC 539 (Pat) 733.

⁶³ The Regulation requires that patent owners register SEPs if they want to litigate them against infringers in the courts of Member States (Article 20(1)). Patent owners may simply decide to litigate outside the EU. As a result, they do not register SEPs and completely avoid conducting essentiality checks or going into mandatory FRAND determinations.

⁶⁴ Rory O’Neil, *Breaking: UPC Chief Urges EU to Rethink SEP Plan*, MANAGINGIP (30 May 2023), available at: <https://www.managingip.com/article/2bqbfr0uyrki1fniy9ou8/breaking-upc-chief-urges-eu-to-rethink-sep-plan>.

⁶⁵ Baron *et al.*, *supra* note 2, at 110.

The Regulation then provides, however, for a nonbinding expert opinion that will relate to a *global royalty* rate, and that 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 EU Member States, aggregate royalties and FRAND determination will be worldwide, covering portfolios in other countries.

This extraterritoriality may lead to three effects. First, if the SEP Register and the result of essentiality checks for EU SEPs are used in global aggregate royalty and FRAND determinations, they will produce inaccurate results. Some patent owners focus on the United States and U.S.-based SDOs and do not patent as much in Europe. There may also be many SEPs in China and other Asian countries that do not have European counterparts.⁶⁶ 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 notes that the EU's share of SEPs is only 15%, compared to the United States and South Korea's shares of 19% and China's 30%.⁶⁷

Second, while it is true that standards are global and commercial practice is to license globally, it is a different matter altogether 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 on this favourably.

The third and principal unintended consequence is that other countries may introduce similar regulations and could easily justify their actions as incorporating a simple "best practice" from Europe. Imagine a situation in which 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 of these increased costs of SEP enforcement and licensing on innovation incentives and participation in collaborative standardisation 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.

An 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. Jonathan Barnett has provided evidence regarding how China has strategically deployed competition and patent law to reduce

⁶⁶ Florian 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*, FossPatents (4 Jun. 2023), available at: <http://www.fosspatents.com/2023/06/eu-only-sep-register-cant-serve-as.html>.

⁶⁷ Impact Assessment, *supra* note 3, at 8.

royalties for SEPs held by foreign companies to the benefit of domestic manufacturers.⁶⁸ The EU has also launched a complaint before the World Trade Organization (“WTO”) against China’s practice of issuing broad anti-suit injunctions to prevent the enforcement of SEPs in other jurisdictions.⁶⁹ 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 proposed SEP Regulation makes licensing SEPs more costly, provides solutions that are likely to prove unworkable in practice, and risks countervailing measures by other countries that might be detrimental to European SEP owners and innovation.

IV. Market-Based Alternatives to the Proposed Regulation

Here, we suggest some measures as alternatives 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, we believe small changes in the institutes of private ordering might improve the existing system in a cost-effective and balanced way. If regulatory action is to be pursued, however, then the application of the Regulation could be limited at first to only a few selected standards and/or use cases to tests its effects.

A. Pledges from SEP Owners Not to Assert SEPs Against SMEs

According to the Commission, most standard implementers are SMEs.⁷⁰ They are currently *de facto* unlicensed since the transaction costs apparently outweigh the expected licensing revenues. They will remain unlicensed until they achieve sufficient market scale 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 information on how many, or which SEP owners licensed those SMEs.⁷¹

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 compared to the unlicensed majority of SMEs. Additionally, SMEs are uncertain at what point they would be considered 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. To avoid any 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

⁶⁸ Jonathan Barnett, *Antitrust Mercantilism: The Strategic Devaluation of Intellectual Property Right in Wireless Markets*, BERKELEY JOURNAL OF LAW & TECHNOLOGY (forthcoming); see also Jeanne Suchodolski, Suzanne Harrison, & Bowman Heiden, *Innovation Warfare*, 22 NORTH CAROLINA JOURNAL OF LAW & TECHNOLOGY 175 (2020).

⁶⁹ DS611: China-Enforcement of Intellectual Property Rights, WORLD TRADE ORGANIZATION (2022), available at: https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds611_e.htm.

⁷⁰ Impact Assessment, *supra* note 3, at 11 (84% of EU-based standard implementers are SMEs).

⁷¹ Impact Assessment, *supra* note 3, at 67.

or a balance sheet of no more than €43 million.⁷² Other definitions could also be considered. For instance, there may be successful companies in the IoT that employ less staff 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 binding pledges not to enforce SEPs against SMEs 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, they may generate significant collective 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, as discussed in the next proposal.

B. SME License-Purchasing Groups

One way for SMEs to get licensed simply and efficiently would be to form special license-purchasing groups (“LPGs”), as proposed by Ruud Peters *et al.*⁷³ LPGs would comprise SMEs with up to 15-20% share of the relevant market, and an LPG administrator experienced in patent licensing would take care of licensing negotiations on behalf of member SMEs. This option would simplify licensing 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. The benefits to SMEs would be that they could delegate licensing negotiations to experienced professionals and 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 the licensing-negotiations groups (“LNGs”) suggested by the SEP Expert Group, which raise serious competition-law risks and may be considered a façade for buyers’ cartels among implementers.⁷⁴ In an LPG, there will be no discussion of product prices, profit margins, market share, the maximum amount of royalty, or licensing level. The tasks of the LPG administrator are only to check if an SME needs a license (*i.e.*, if it produces standard-implementing products) and to negotiate such a license with individual SEP owners and pools based on their licensing programmes. In licensing negotiations, the LPG administrator would ensure that LPG members receive an appropriate volume discount, so that SMEs would not be disadvantaged relative to larger companies with significant volumes; guarantee that members comply with reporting obligations and royalty payments 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

⁷² European Commission, Recommendation of 6 May 2003 Concerning the Definition of Micro, Small and Medium-Sized Enterprises (2003) C 1422.

⁷³ Ruud Peters, Igor Nikolic, & Bowman Heiden, *Designing SEP Licensing Negotiation Groups to Reduce Patent Holdout in 5G/IoT Markets* in JONATHAN BARNETT & SEAN O’CONNOR (eds), *5G AND BEYOND: INTELLECTUAL PROPERTY AND COMPETITION POLICY IN THE INTERNET OF THINGS* (Cambridge University Press 2023).

⁷⁴ *Contribution to the Debate on SEPs*, GROUP OF EXPERTS ON LICENSING AND VALUATION OF STANDARD ESSENTIAL PATENTS (2021), available at: <https://ec.europa.eu/docsroom/documents/45217>; for commentary, see Nikolic, *supra* note 59.

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.

C. 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. We are already witnessing Avanci and Sisvel preparing and modelling new licensing programmes for different IoT applications. Patent pools would resolve many of the Commission's concerns about transparency: they provide certainty that truly essential patents are included in a pool, and if many 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. Concrete measures could then be taken to incentivise and support pool formation. For example, a pool's implementation costs are often substantial,⁷⁵ 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.

D. Limit the Scope of the Proposed Regulation

If the Regulation is to be adopted in the present shape, which we think would be a mistake, its scope of application could be limited to only a few selected standards and/or use cases for which the Commission has evidence of licensing inefficiencies, and which would serve as a real-world test of the usefulness of new regulatory measures. In this way, we may observe in real time how regulatory measures would be applied in practice and their effects on SEP-licensing markets. After evaluating their effectiveness, the Regulation might later 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 we and many others predict they would be.

V. Conclusion

We would like to thank the European Commission for the opportunity to comment on the proposed SEP Regulation. We believe that the available evidence used by the Commission in preparation for this Regulation does not show the existence of market failure in SEP-licensing markets that justify regulatory oversight. Quite the opposite, the mobile-telecommunications sector, which is alleged to be the most problematic, is seeing continuous growth, innovation, and

⁷⁵ Michael Mattioli & Robert P. Merges, *Measuring the Costs and Benefits of Patent Pools*, 78(2) OHIO STATE LAW JOURNAL 281 (2017).

market entry. The incidence of SEP litigation is low and has been declining over the years, with no systemic negative effects on SEP owners and implementers.

In our opinion, the proposed SEP Regulation would complicate SEP licensing even further and may alter incentives to innovate in the open-standardisation environment. It unevenly distributes all the benefits to implementers and costs to SEP owners, raising the costs of licensing even more. Its broad 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 world: the United States, United Kingdom, China, and India.

European courts have over the years have built impressive case law clarifying the contents of FRAND licenses and good-faith licensing negotiations. It would be a shame to see Europe lose its place in influencing the future SEP-licensing framework. Crucially, other countries may be inspired by the Commission's SEP Regulation and decide to adopt similar regulatory regimes. Regulations implemented by other countries might easily backfire and be used for protectionist purposes and as a strategic tool to devalue the royalties of innovative European SEP owners. The primary beneficiaries of the Regulation might be non-EU based implementers, to the detriment of European innovators and Europe's technological leadership.

While we believe the proposed SEP Regulation is unnecessary and disproportionate, this is not to say that the SEP-licensing framework cannot be further refined and simplified. The challenge, however, is to find solutions that improve the existing system in a cost-effective, balanced, and efficient way. We believe market-based mechanisms should be supported and sought over government regulation. It must also be emphasised that there is no one size-fits-all answer. Different solutions may be applied in different markets, and appropriate competition-law safeguards must be put in place to guarantee efficient market outcomes.