Response to United Kingdom Intellectual Property Office

Open Consultation on Standard Essential Patents

7 October 2025

As current and former US judges, former US government officials, legal scholars, and economists who are experts in intellectual property and competition law, we respectfully submit these views in response to the Open Consultation on Standard Essential Patents, published 15 July 2025, by the United Kingdom Intellectual Property Office (UK IPO). We have dedicated extensive attention in academic research and governmental positions to the licensing and enforcement of standard-essential patents (SEPs) relating to wireless communication technologies and the application of those technologies in a wide range of markets and industries.

Specifically, we submit these views in response to the UK IPO's statement in the Consultation for proposals "to create a more balanced" SEP ecosystem "that works for everyone involved – from the innovators who create patented technologies to the businesses that use them to create products we all depend on." In this submission, we present what we view as the principal concepts and evidence relating to the constructive role of SEPs in efficiently promoting innovation and structuring commercialization activities in mobile communications and other environments that have been and are enabled by foundational technologies such as 4G/LTE, 5G, and WiFi. We also take this opportunity to correct misconceptions that have arisen in some scholarly and regulatory commentary considering these topics. We have organized our discussion around five key topics. In the context of the Consultation's reference to a proposed Rate Determination Track, we also discuss the insights that can be learned from the European Commission's recent withdrawal of a proposal to establish a quasi-mandatory rate-determination process that would have upset the balance between innovators and implementers in the SEP licensing ecosystem.

In presenting these views, we understand that UK policymakers are currently focused on improving the global competitiveness of the UK economy and, in particular, its contribution to the global innovation economy. The UK is a world leader in fundamental scientific research undertaken through its best-in-class research universities. However, while the UK consistently leads in world university rankings, it often lags on various indicators of innovation and entrepreneurship, exhibiting challenges in assembling the capital, talent, and infrastructure required to convert scientific breakthroughs into technically and commercially viable products and services.[1] Of special concern, the UK's R&D investment in information and commercial technologies increasingly lags behind peer countries.[2] Empirical evidence, historical experience, and economic theory show that robust protection of intellectual property rights facilitate the commercialization of scientific research in the marketplace, especially by academic institutions

[1] House of Commons Committee of Public Accounts, Research and Innovation, HC 826, at 5–7 (2025), https://publications.parliament.uk/pa/cm5901/cmselect/cmpubacc/826/report.html (while the UK has world-leading academic research, there are "systemic problems" in scaling up and commercializing discoveries, including limited funding and talent); Cambridge Indus. Innovation Policy, UK Innovation Report 2025, at 15–19 (2025), https://www.ciip.group.cam.ac.uk/wp-content/uploads/2025/03/UK-Innovation-Report-2025.pdf (UK universities and research outputs are globally top-ranked but industrial R&D intensity and competitiveness lag peer countries, with many technologies invented in the UK manufactured or commercialized elsewhere).

[2] Cambridge Indus. Innovation Policy, UK Innovation Report 2025, *supra* note 1, at 31.

and smaller R&D intensive firms that rely on partnerships with larger companies.[3] These findings explain why countries that lead in technological innovation consistently exhibit both strong academic research capacities and robust protection of IP rights.[4] In light of this historical and empirical evidence, it is our view that secure protection of intellectual property rights, including the licensing and other transactional arrangements anchored in those rights, is a vital element in revitalizing the UK innovation ecosystem.

The Core Functions of Standard-Essential Patents in the Wireless Ecosystem

A reliable legal infrastructure for the enforcement and licensing of SEPs plays three critical functions in supporting a sequence of innovation and commercialization activities in the wireless communications ecosystem.

First, it supports the investment of billions of dollars annually in the development of chip designs that result in new functionalities that benefit businesses and consumers. Without an assurance of legal exclusivity in the event of technical and commercial success, no firm can support making these types of investments. Second, it preserves incentives for those firms to dedicate thousands of personnel hours in participating, and taking leadership positions, in standard-development organizations, which in turn promotes interoperability among devices that implement technology standards. Third, it supports licensing relationships that disseminate standard-compliant wireless technologies developed by a handful of lead innovators—two of which are located in the EU—to hundreds of device producers around the world.

The result is a thriving global market that both incentivizes upstream innovators to make substantial investments in research and development and enables downstream producers to access the technologies necessary to implement the applicable standard in interoperable devices distributed to consumers. Any intervention that would limit the enforceability or licensing of SEPs in wireless device markets must take into account the existing transactional and market structures that may be affected as a result.

Theory and Evidence: Patent Holdup and Royalty Stacking

It is often asserted that SEPs pose a threat to innovation and competition in wireless communications and other industries on the ground that SEP owners inherently exert market power and can use such power to "hold up" implementers by "imposing" one-sided terms that advantage licensors over licensees. Relatedly, it is often claimed that the rates "set" by SEP owners will result in a "royalty stack" that translates into inflated prices for consumers. It is important, however, to appreciate that these are theoretical conjectures that must be tested against real-world evidence before being treated as a reliable basis for SEP policymaking.

An extensive body of empirical research has carefully assessed the factual accuracy of these two claims. These publications, using a variety of statistical methodologies, have consistently failed to

[3] Jonathan M. Barnett, *Intellectual Property, Firms, and Markets* (Oxford Univ. Press 2021); Robert P. Merges, *A Transactional View of Property Rights*, 20 Berkeley Tech. L.J. 1477 (2005); Ashish Arora and Robert P. Merges, *Specialized supply firms, property rights and firm boundaries,* 13 Ind. & Corp. Change 451 (2004).

[4] Jonathan M. Barnett, *Patent Tigers: The New Geography of Global Innovation*, 2 Criterion J. on Innovation 429 (2017); Margaret Kyle and Yi Qian, *Intellectual Property Rights and Access to Innovation: Evidence from TRIPS*, NBER Working Paper No. 20799 (Dec. 2014); Yi Qian, *Do National Patent Laws Stimulate Domestic Innovation in a Global Patenting Environment? A Cross-Country Analysis of Pharmaceutical Patent Protection, 1978–2002,* 89 Rev. Econ. & Stat. 436 (2007).

find evidence for the patent holdup and royalty-stacking theories. Most notably, rather than implementers being burdened by double-digit royalty rates, as some commentators initially predicted or claimed existed based on anecdotal reports, these studies consistently estimate that handset manufacturers pay an aggregate royalty burden in the single digits.[5] Moreover, these studies find that this modest rate has held approximately constant over the life of the industry,[6] a result that is flatly contrary to the "lock-in effects" predicted by holdup theorists. A survey of the empirical evidence appropriately concludes: "Despite the 15 years proponents of the [holdup and stacking] theories have had to amass evidence, the empirical studies conducted thus far have not shown that holdup or royalty stacking is a common problem in practice."[7]

These empirical findings are unsurprising. Patent holdup and royalty stacking theories predict market failure absent regulatory intervention to restrain opportunistic behavior by SEP owners. Yet, over a period of more than three decades, wireless communications markets have failed to conform to these predictions. These markets have exhibited expanding output, continuous innovation, and rapid adoption across a broad range of income segments. Most notably, quality-adjusted prices in SEP-intensive device markets have *fallen,* rewarding consumers with greater functionality at lower prices.[8] This is a case of market success, not the market failure anticipated by patent holdup and royalty stacking theorists.

There is no empirical study that challenges these findings or otherwise presents credible evidence of holdup or stacking effects. A recent article allegedly finds evidence of "hold-up behavior" by adopting an "expansive use of the term hold-up in the patent enforcement context."[9] This "broadly defined" notion of holdup consists of the authors simply counting assertions by defendants sued by SEP owners in US courts for patent infringement that the plaintiff is engaging in "holdup" or simply counting when SEP owners request an injunction in filing an infringement lawsuit. This is not a rigorous research methodology. Self-interested assertions of holdup by defendants in infringement litigation are not credible statements without additional information to confirm the veracity of these claims (which is why US courts have rejected these conclusory assertions when made by defendants in SEP litigation[10]). It is equally unreliable to interpret every request by an

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[5] *See* Alexander Galetovic and Kirti Gupta, *The case of the missing royalty stack in the world mobile wireless industry,* 29 IND. & CORP. CHANGE 827 (2020); Alexander Galetovic, Stephen H. Haber and Lew Zaretski, *An Estimate of the Average Cumulative Royalty Yield in the World Mobile Phone Industry: Theory, Measurement and Results*, 42 TELECOMM. POLICY 263 (2018); Jason Dedrick and Kenneth L. Kraemer, *Intangible Assets and Value Capture in Global Value Chains: The Smartphone Industry*, WORLD INTELLECTUAL PROPERTY ORGANIZATION, WORKING PAPER NO. 41 (2017); J. Gregory Sidak, *What Aggregate Royalty Do Manufacturers of Mobile Phones Pay to License Standard-Essential Patents?*, 1 CRITERION J. INNOVATION 701 (2016); 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 L. REV. 967 (2016).

[6] *See* Alexander Galetovic, Stephen H. Haber and Ross Levine, *An Empirical Examination of Patent Holdup,* 11 J. COMP. L. & ECON. 549, 564-69 (2015).

[7] *See* Anne Layne-Farrar, *Patent Holdup and Royalty Stacking: Theory and Evidence, Where Do We Stand After 15 Years of History?* DIRECTORATE FOR FINANCIAL AND ENTERPRISE AFFAIRS, COMPETITION COMMITTEE, PARIS OECD (2014).

[8] *See* Galetovic, Haber, and Zaretski, *supra* note 6.

[9] Brian J. Love, Yassine Lefouili and Christian Helmers, *Do Standard-Essential Patent Owners Behave Opportunistically? Evidence from U.S. District Court Dockets*, 25 AM. L. & ECON. REV. 300, 304 (2024),.

[10] *See* Ericsson v. D-Link, 773 F.3d 1201, 1234 (Fed. Cir. 2014) ("[W]e agree with the district court that D-Link failed to provide evidence of patent hold-up and royalty stacking . . . . [W]e see no error in the district court's refusal to instruct the jury on patent hold-up or to adjust the instructions expressly to take patent hold-up into

SEP owner for an injunction as "evidence" of patent holdup. US courts (like EU courts) have consistently ruled that SEP owners may seek injunctions for infringement of their patent rights.[11] A law firm representing an SEP owner would probably be committing malpractice if it did *not* seek an injunction when bringing suit for infringement.

It is imperative that any decisions by policymakers in adopting new regulations governing SEP licensing, whether information disclosure mandates, essentiality checks, or rate-setting requirements, take into account the full body of published empirical evidence, rather than relying on theoretical models that may not track real-world markets, flawed studies compromised by fundamental methodological errors, or incomplete and misleading characterizations of the scholarly literature. In this spirit, we attach an Appendix of the published research identifying the numerous substantive and methodological flaws in the patent holdup and royalty stacking theories. We also point to rigorous empirical studies that all directly contradict these theories' predictions.

SEP Owners and the Market Power Assumption

Given the empirical failure of the patent holdup and royalty stacking theories, it is important to consider whether those theories rest on faulty assumptions that may lead SEP policymakers astray more generally. Specifically, it is important to consider whether, as those theories assume, SEP owners typically exert market power and can therefore dictate terms to licensees. Closer scrutiny of the mechanics of the wireless communications market shows that this assumption is unlikely to be satisfied in most cases.

There are two reasons. First, at any point prior to market adoption of a standard, SEP owners have strong incentives to offer rates that encourage adoption by implementers who often can select competing standards. Absent adoption, the billions of dollars invested by an innovator in developing a new standard will yield no returns. Second, at any point after market adoption of a standard, SEP owners that are repeat players in the wireless communications market have incentives to accrue goodwill by maintaining reasonable royalties throughout the life of any particular standard. This goodwill can then be deployed to induce adoption of the next generation in wireless technology standards. This iterative structure both conforms to the multi-generational history of wireless communications markets (2G, 3G, 4G/LTE, 5G) and explains why SEP royalty rates have generally been constant throughout the life of the industry.[12] This last finding is significant because it is flatly inconsistent with patent holdup theory, which predicts that SEP owners would increase rates once implementers are "locked in" to the standard.

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account."); *id.* at 1235 ("[I]f an accused infringer wants an instruction [to the jury] on patent hold-up and royalty stacking, it must provide evidence on the record of patent hold-up and royalty stacking in relation to both the RAND commitment at issue and the specific technology referenced therein.").

[11] *See* Apple Inc. v. Motorola Inc., 757 F.3d 1286, 1331 (Fed. Cir. 2014) (ruling that trial court "erred" when it "applied a per se rule that injunctions are unavailable for SEPs"). For a representative sample of the many EU cases in which SEP owners requested or received injunctions, see "The FRAND Principle and Injunctive Relief," *infra*.

[12] Alexander Galetovic, Stephen Haber, and Lew Zaretski, *An Estimate of the Average Cumulative Royalty Yield in the World Mobile Phone Industry: Theory, Measurement and Results* 42 TELECOMMUNICATIONS POLICY 263, 266 (2018).

The FRAND Principle and Injunctive Relief

The thriving ecosystem in wireless technologies relies on balancing the interests of innovators and implementers through good-faith negotiations of licensing terms based on fair, reasonable, and non-discriminatory (FRAND) royalty rates. Innovators require assurance that they will be able to enforce and license the SEPs that protect their technological innovations and, in the case of infringement, will be able to seek legal recourse without undue delay. Implementers require assurance that SEP owners will not demand exorbitant rates once implementers have made investments in adopting SEP-protected technologies (although we believe that is a low-probability risk for the reasons stated above). Since the inception of the industry, the FRAND principle, as reflected in the terms negotiated by sophisticated licensors and licensees and, in some cases, as interpreted by courts as a matter of contract law, has mediated between these two concerns.

Some commentators and regulators have taken the view that the FRAND principle precludes SEP owners from seeking injunctive relief. This view has been rejected by the Court of Justice of the European Union (EU), the UK Supreme Court, and the US Court of Appeals for the Federal Circuit.

In *Huawei v. ZTE*, the Court of Justice of the European Union (CJEU) held that a SEP owner may seek an injunction against ongoing infringement by an implementer unless the implementer responds to the SEP owner's royalty offer by submitting a specified FRAND-compliant counter-offer and provides appropriate security pending resolution of the dispute.[13] Following the 2015 decision in *Huawei v. ZTE*, the UK High Court of Justice and the UK Supreme Court respectively reaffirmed the right of SEP owners to receive injunctions when facing an "unwilling licensee" who engages in classic stalling tactics.[14] Even prior to these decisions, the European Commission had recognized concerns that "limiting SEP holders' right to seek injunctions would increase the risk that SEP holders receive sub-FRAND royalties, something that has been called . . . 'hold-out'."[15]

As a result of these decisions, SEP owners who file lawsuits in the UK and EU jurisdictions can request—and, if validity and infringement are demonstrated, can sometimes expect to receive (although after considerable cost and delay)— injunctive relief if an infringer is deemed by a court to be an "unwilling licensee," often as indicated by the use of "stalling" and other opportunistic bargaining and litigation tactics. A recently published empirical study of five jurisdictions in which SEP licensing disputes were adjudicated by courts—the UK, US, Germany, the Netherlands, and India—found "at least fifty-four cases over the past decade in which courts found that the implementer engaged in 'patent holdout' when negotiating a license for SEPs."[16]

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[13] Huawei Technologies Co. Ltd. v. ZTE Corp. and ZTE Deutschland GmbH*,* Court of Justice of the European Union, judgment dated 16 July 2015, Case No. C-170/13.

[14] Unwired Planet International Ltd. et al. v. Huawei Technologies (UK) Co. Ltd. et al*.,* [2020] UKSC 37; Unwired Planet International Ltd. et al. v. Huawei Technologies (UK) Co. Ltd. et al.,[2017] EWHC 2988 (Pat).

[15] Intellectual Property and Standard Setting, Note by the European Union, submitted to the Organization for Economic Cooperation and Development, Directorate for Financial and Enterprise Affairs, Competition Committee, Dec. 2, 2014, https://one.oecd.org/document/DAF/COMP/WD(2014)117/en/pdf.

[16] Kirti Gupta & Urška Petrovčič, *Evidence of Systemic "Patent Holdout,"* 38 BERKELEY TECH. L. J. 575, 582 (2024). The years of study were 2012 – 2021. The study excluded China given selection effects and confounding variables, such as the use of courts by the Chinese Communist Party to advance its domestic industrial policies and geopolitical agenda.

It is thus unsurprising that courts have been granting requests for injunctions by SEP owners. UK courts have issued injunctions to SEP owners based on a finding that the infringer had engaged in "holdout" tactics.[17] The same is true of Dutch and German national courts.[18] The Unified Patent Court has also granted requests for injunctions by SEP owners.[19] Reflecting a similar doctrinal approach, the US Court of Appeals for the Federal Circuit has held that "an injunction [for a SEP owner] may be justified where an infringer unilaterally refuses a FRAND royalty or unreasonably delays negotiations to the same effect."[20]

This near uniformity of judicial opinion in multiple jurisdictions reflects common sense. If SEP owners were flatly precluded from seeking injunctions, then infringers would have little reason ever to agree to, or negotiate in good faith, a license with a SEP owner. The CJEU's decision in *Huawei v. ZTE* astutely recognized this prospect of "patent holdout." A well-resourced infringer would rationally reject any license offer and compel the SEP owner to enter into a litigation that typically requires millions of dollars in legal expenses and years of patent-by-patent judicial proceedings in multiple venues around the world. In the worst-case scenario, the infringer would be compelled to pay monetary damages that are typically calculated using a methodology designed to mimic the rate in a negotiated licensing transaction. Even under the current legal regime, in which injunctive relief may be reasonably available in European courts but only after a delayed and costly litigation process, well-resourced implementers regularly decline to take licenses at the outset of negotiations with SEP owners, compelling both parties to spend millions of dollars and thousands of personnel hours on litigations in multiple jurisdictions. Those resources could have been directed more productively toward research and development to advance wireless technologies.

More generally, legal regimes that do not preserve a reasonable expectation of injunctive relief against infringers in SEP litigations have a counterproductive "domino effect" that shifts bargaining leverage to implementers in *all* SEP licensing negotiations, devaluing existing patent-protected technologies and disincentivizing firms from developing new technologies. Absent any realistic prospect of an injunction within a reasonable period of time, the implementer enjoys access to the innovator's technology, deriving revenues from the products and services that embody that technology, while, during the negotiations and litigation, the innovator earns nothing from the same technology that it developed at great cost and risk. This asymmetry is likely to lead to settlement amounts or, absent litigation, negotiated royalties that undervalue the innovator's technology. This effectively transfers wealth from firms that specialize in developing wireless

[17] See Unwired Planet v Huawei and Conversant v Huawei and ZTE, UK Supreme Court, judgment dated 30 January 2019, Case No. [2019] EWCA Civ 38; TQ Delta v. ZyXEL Communications, Case No. HP-2017-000045-[2019] EWHC 745 (Pat).

[18] *See* InterDigital Inc. v. Lenovo, Regional Court (Landgericht) of Munich I, 2 May 2024, Case No. 7 O 12029/23; Nokia v Oppo, District Court of Mannheim, 5 July 2022, Case No. 2 O 75/21; Via Licensing v TCL, Higher District Court of Düsseldorf, 20 July 2021, Case No. I-15 U 39/21; Sisvel v Sun Cupid, District Court of The Hague, Case No. C/09/582418 HA ZA 19-1123 (2 March 2020); Koninklijke Philips N.V. v. Asustek Computers Inc., Court of Appeal of The Hague, Case No. 200.221.250/01 (7 May 2019); Tagivan (MPEG LA) v. Huawei, District Court of Dusseldorf, Case No. 4a O 17/17 (15 November 2018). This is a representative, rather than a comprehensive, list of decisions in which European courts have granted injunctions to SEP owners.

[19] *See* Huawei v Netgear, Unified Patent Court – Munich Local Division, judgment dated 18 December 2024, Case-No. UPC_CFI_9/2023; Panasonic v. Oppo, Unified Patent Court – Mannheim Local Division, judgment dated 22 November 2024, Case-No. UPC_CFI_ 210/2023.

[20] Apple Inc. v. Motorola Inc., 757 F.3d 1286, 1332 (Fed. Cir. 2014).

technologies to firms (including some of the world's most valuable companies) that specialize in using and integrating those technologies in branded devices sold to consumers.

These are precisely the concerns that appear to have motivated the Request for Consultations filed by the EU on 18 February 2022 at the World Trade Organization (WTO) for "dispute consultations with China concerning alleged Chinese measures adversely affecting the protection and enforcement of intellectual property rights." In a decision on 21 July 2025, a WTO Appeal Arbitrator found that China violated its obligations under the TRIPS Agreement in abusing anti-suit injunctions in SEP cases to the disadvantage of SEP owners in other WTO member states, reversing a previous WTO panel decision in favor of China.[21] The gravamen of the EU's successful complaint against China at the WTO reflect the same concerns that arise in connection with any legal regime that limits the ability of SEP owners to seek injunctive relief and appropriately determined monetary damages against adjudicated infringers. Namely: absent the expectation of a sufficient remedy within a reasonable period of time, the SEP owner has no ability to deter infringers, which in turn distorts to implementers' advantage the licensing terms agreed through negotiation or settlement. That is not a recipe for a robust innovation ecosystem generally, nor one that will improve the UK's innovation economy and its global competitiveness in particular.

The FRAND Principle and the "Level of Licensing"

Some commentators and regulators have expressed the view that the FRAND principle requires that SEP licensing take place at the component level (or more specifically, at the level of the "smallest saleable practicing patent unit"). While a royalty should reflect the value contributed by the SEP-protected technology to the product in which it is embedded, this principle does not require that the royalty rate be determined at the component level or at any other particular level in a technology supply chain.

There are two reasons. First, economically speaking, it is a matter of indifference at which point in the supply chain the royalty rate is determined since sophisticated parties, such as the firms involved in SEP licensing transactions, can adjust the percentage royalty to reflect the technological contribution attributed to the licensed SEP portfolio. Second, there is no reason to believe that there is a one-size-fits-all approach to SEP licensing. In some environments, it may be most efficient to license at the device level; in other environments, it may be more efficient to license at the component level. It is not plausible to believe that regulators or courts would be in a superior position to select (and then continuously adjust) the efficient licensing level as compared to business parties involved in the relevant market on a day-to-day basis.

Notwithstanding these considerations, it is often asserted that device-level licensing enables SEP owners to charge rates that do not comply with the FRAND principle. This argument makes a blanket assumption of market power without specific evidence. US courts have rejected this allegation in lawsuits filed against SEP owners for exactly this reason: it is entirely theoretical and lacking any evidence of harm to either competition or consumers.[22]

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[21] *See* European Commission, *WTO appeal Arbitrator finds China wrong to restrict intellectual property rights in dispute brought by EU - European Commission* (22 July 2025), https://policy.trade.ec.europa.eu/news/wto-appeal-arbitrator-finds-china-wrong-restrict-intellectual-property-rights-dispute-brought-eu-2025-07-22_en.

[22] *See* Continental Automobile Systems, Inc. v. Avanci, LLC, 485 F. Supp. 3d 712, 730 (N.D. Tex. 2020), *affirmed*, 2022 WL 2205469 (5th Cir. June 21, 2022) (concluding that Continental's mere "theories" of antitrust harms arising from Avanci's policy of OEM-level licensing of SEPs "are legally untenable").

Moreover, this argument overlooks how device-level SEP licensing, the long-standing practice in the wireless communications industry, can benefit the ecosystem as a whole. There are three reasons. First, device-level licensing maximizes the accuracy of the royalty as a measure of the economic value of the patented technology by assessing the royalty at the point that is closest to the point of sale at which consumer demand is revealed.[23] Second, device-level licensing is most likely to minimize disputes among licensors and licensees by using an objective measure—sales revenue—that is easy to confirm and difficult to manipulate. Third, device-level licensing minimizes transaction costs by consolidating royalty measurement and payment at a single point, rather than at multiple points, on the supply chain. While other SEP-enabled markets may discover that alternative licensing conventions (or a mix of licensing conventions) are more efficient, there is no economic reason to require that SEP licensing take place in all cases at a particular point in the technology supply chain.

Relatedly, we would like to clarify a point of US law that may have relevance in the UK IPO's policy analysis of this issue. Some commentators assert that the US mandates the "smallest salable patent-practicing unit" (SSPPU) standard for determining a reasonable royalty.[24] This is incorrect. In almost all cases, US courts have adopted the SSPPU standard as a precautionary evidentiary measure in certain jury trials for the limited purpose of avoiding possible confusion by a jury in its damages calculations.[25] The US Court of Appeals for the Federal Circuit has specifically rejected the view that damages calculations in infringement litigation involving multi-component products must use as a matter of law the SSPPU standard.[26] Consistent with this legal principle, US courts have rejected arguments by implementers in the FRAND context that reasonable royalty damages *must* be calculated based on the SSPPU standard, preferring instead to rely on evidence of comparable licenses consistent with patent damages jurisprudence.[27]

Licensing in SME Markets

The Consultation asks for feedback in particular concerning "challenges that may hinder innovation and investment, particularly for smaller businesses." We understand that the Consultation may be referring to the potential adverse impact of SEP licensing practices on startups and other SMEs. We agree with the UK IPO that this is an important policy concern. In our view, however, current SEP licensing markets already exhibit capacities and incentives to anticipate and address transaction-cost obstacles to licensing SMEs through tailored market-specific arrangements.

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[23] Alexander Galetovic and Stephen Haber, *SEP Royalties: What Theory of Value and Distribution Should Courts Apply?,* 17 OHIO STATE TECH. L. J. 189 (2021).

[24] *See* Love et al., *supra* note9, at 313 ("U.S. courts have ruled that reasonable royalty damages should ordinarily be calculated using the 'smallest salable patent-practicing unit' (SSPPU) in an accused multi-component product as the royalty base . . . .").

[25] *See* David Kappos & Paul Michel, *The Smallest Saleable Patent-Practicing Unit: Observations on its Origins, Development, and Future,* 32 BERKELEY TECH. L. J. 1433, 1446-47 (2018).

[26] *See* Commonwealth Sci. & Indus. Research Organisation v. Cisco Sys., Inc., 809 F.3d 1295, 1301-02 (Fed. Cir. 2015) (explaining that the legal standard for determining damages is apportionment, that more than one method may be used to estimate reasonable royalties, and that "abstract recitations of royalty stacking theory . . . are insufficiently reliable").

[27] *See, e.g.*, HTC Corp. v. Telefonaktiebolaget LM Ericsson, 12 F.4th 476, 494 (5th Cir. 2021) (Higginson, J., concurring) ("Ericsson's point—that SSPPU may not be the appropriate royalty base and should not be mandated to the jury—is well taken."); *D-Link*, 773 F.3d at 1226-28 (permitting introduction of device-level licenses as reliable evidence of reasonable royalties for the SEP owner in this case).

Real-world information and communications technology (ICT) markets characterized by large numbers of dispersed patent owners have repeatedly exhibited the ability to engineer licensing practices that maximize adoption among producers and other intermediate users, whether through bilateral transactions, licensing consortia, or patent pools.[28] This result should not be surprising: a patented technology is a depreciating asset that typically faces actual or potential competition from substitute technologies, giving the patent owner (or third parties that administer patent pools) a powerful incentive to minimize any potential transaction-cost obstacles to maximal adoption of the relevant technology. While stylized economic models may anticipate that a patent owner will withhold access to its patent portfolio to extract the highest possible royalty rate, this expectation is repeatedly rebutted by licensing practices in real-world ICT markets, which tend to favor non-exclusive licensing practices at reasonable rates. This is consistent with the observation that, since the transition to a digital economy, ICT markets have exhibited not only high levels of patent issuance but, concurrently, increasing output and declining quality-adjusted prices—the classic signs of a competitive market that is both statically and dynamically efficient.[29]

Lessons from the EU's Experiment with a Similar SEP Regulatory Proposal

We understand that the UK IPO Consultation proposes a Rate Determination Track that would provide an "independently adjudicated licensing rate." It is unclear whether this process would substitute for the current judicial processes through which innovators and implements currently litigate SEP licensing disputes, in the relatively small number of cases where those disputes cannot be resolved through commercial negotiations.[30] In this context, we believe the UK IPO can glean insights from the recently withdrawn proposal to establish a similar rate-determination process in the EU.

In April 2023, the European Commission proposed a Regulation on Standard Essential Patents (SEPs) that would have introduced a quasi-mandatory registration system, essentiality checks, and a pre-litigation FRAND determination procedure administered by the EU Intellectual Property Office.[31] The proposal contemplated aggregate royalty rate assessments, required SEP holders to record their patents before enforcement, and directed parties to a "conciliation" process before litigation.[2] In response, a wide range of academics and other commentators (including some signatories to this letter) cautioned that the regulation would impose significant administrative burdens, distort the pricing of SEP licenses by shifting bargaining leverage to large device producers, and needlessly substitute for the judicial process—an area where UK courts have often led the way—that addresses SEP licensing issues on a case-by-case basis under the *Huawei* framework. In comments submitted to the European Commission, former judges and governmental officials in the EU, UK, and US, as well as academic scholars, observed the undeniable fact that no published empirical study has ever found evidence of the economic effects predicted by the theory of patent holdup that was first proposed several decades ago, such as reduced rates of

[28] *See* Jonathan M. Barnett, *From Patent Thickets to Patent Networks: The Legal Infrastructure of the Digital Economy*, 55 JURIMETRICS 1 (2014).

[29] *See* Jonathan M. Barnett, *The Anti-Commons Revisited,* 29 HARV. J. L. & TECH. 127, 141-44 (2015).

[30] The UK IPO's report to Parliament in support of its Standard Essential Patents Consultation acknowledges that there is only an average of 28 court cases annually arising out of FRAND disputes worldwide, and that in 2021, there were only 3 cases. *See* UK IPO, Standard Essential Patents Consultation 31 (July 2025).

[31] Proposal for a Regulation of the European Parliament and of the Council on Standard Essential Patents, COM (2023) 232 final (Apr. 27, 2023).

innovation and higher prices for consumers in the mobile telecommunications sector.[32] The advocates for the EU's proposed SEP regulatory regime ignored the fact that the vast majority of licensing transactions are concluded between innovators and implementers without recourse to the judicial process, providing the most reliable benchmark for the value of technology assets just like any other market.[33]

In response to these concerns about the absence of evidence justifying a regulatory regime for SEP licensing and litigation, the European Commission formally withdrew the proposal on February 11, 2025. The European Commission chose to leave SEP licensing to the marketplace and, in the infrequent case when disputes cannot be independently resolved, EU and national courts. The UK IPO should follow the same governing principle of evidence-based policymaking as the European Commission. The evidentiary burden to justify the proposed SEP regulatory regime has not been met by the academics and implementers advocating for its adoption.

Conclusion

The global market in wireless communications technologies, and the wide range of secondary markets that rely on those technologies, has thrived for approximately three decades through licensing-based business models predicated on the ability to engage in arm's-length negotiations over licensing terms, to enforce those terms in the event of default by a counterparty, and to obtain injunctions in the event of deliberate patent infringement. This legal infrastructure for SEP licensing and enforcement has enabled technology pioneers—including innovators based in the UK—to recoup billions of dollars of investment in research and development and consequently enabled those innovators to continue attracting capital for these economically critical activities, resulting in a continuous flow of new functionalities for enterprise and individual users. This same infrastructure has promoted access to fundamental technology inputs among intermediate users around the world, dramatically lowering entry costs into the production segments of the technology supply chain and promoting competition on price and quality in the retail market for consumers' benefit. So long as courts provide robust enforcement of intellectual property rights, as well as the licensing and other contracts predicated on those rights, there is every reason to believe that the market will continue to thrive.

Sincerely,[*]

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[32] *See supra* note 7.

[33] *See* Justus Baron, Pere Arque-Castells, Amandine Leonard, Tim Pohlmann, and Eric Sergheraert, *Empirical Assessment of Potential Challenges in SEP Licensing,* European Commission, Directorate-General for Internal Market, Industry, Entrepreneurship, and SMEs (2023), at 74.

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APPENDIX

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