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Feedback of

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to the

European Commission

regarding its

Revision of the Technology Transfer Block Exemption Regulation and Technology Transfer Guidelines

Position Paper on the Revision of the Technology Transfer Block Exemption Regulation and Technology Transfer Guidelines

We would like to thank the European Commission for the opportunity to submit our comments regarding the update to the Technical Transfer Block Exemption Regulation (TTBER) and associated guidelines.

ACT | The App Association is a policy trade association for the **small business technology developer community**. Our members are entrepreneurs, innovators, and independent developers within the global app ecosystem that engage with markets across every industry. We work with and for our members to promote a policy environment that rewards and inspires innovation while providing resources that help them raise capital, create jobs, and continue to build incredible technology. Today, the ecosystem the App Association represents—which we call the app economy—is valued at approximately €86 billion globally and is responsible for more than 1.3 million jobs in the European Union (EU).[1]

Many of our members invent, develop, and sell internet of things (IoT) devices. The IoT ecosystem is expected to generate EUR 12.5 billion for the global economy by 2030, significantly contributing to economic growth and job creation within the EU.[2] The IoT sector relies heavily on the seamless licensing and implementation of standard essential patents (SEPs). Unfortunately, the IoT market is 'very fragmented, competitive and cost sensitive'.[3] The IoT sector's ability to realistically obtain licenses to SEPs on fair, reasonable, and non-discriminatory terms (FRAND) is therefore paramount to ensuring a competitive and dynamic marketplace.

In the years since the last version of the TTBER and associated guidelines, some patent licensing pools have developed new strategies to aggressively monetize SEPs, and which may seek to misuse their market power to extract above-FRAND royalties. Such strategies risk to undermine the presumed procompetitive benefits typically associated with pool licensing. As a result, ACT believes that the updated TTBER and Guidelines should provide additional clarity regarding how pools should be organized, both in terms of when they benefit from any available safe harbor, and what practices would be indicative of anti-competitive pooling conduct.

I. Executive Summary

For the reasons explained below, ACT recommends that the Commission consider and address the following issues in the updated TTBER and guidelines.

Technology Pools Safe Harbor—To benefit from the safe harbor provision proposed in the Guidelines, patent pools should be required to:

- Make an express commitment (e.g., in the pool formation or membership documents) to be bound by all licensing encumbrances (e.g., FRAND) that are applicable to the pool members. Such commitments would need to be enforceable by potential licenses as third-

[1] *See* https://actonline.org/wp-content/uploads/Deloitte-The-App-Economy-in-the-EU-2020.pdf.

[2] See Impact assessment accompanying the proposal for a regulation of the European Parliament and of the Council on standard essential patents and amending Regulation (EU) 2017/1001, Page 10

[3] *See* https://actonline.org/2023/10/05/the-european-unions-proposal-for-a-transparent-fair-and-reliable-standard-essential-patent-landscape/.

party beneficiaries, similar to how licensees already can enforce licensing encumbrances made by the pool members to the relevant standard setting organizations.

- Where the pool rate is challenged as non-FRAND, remain willing to accept and be bound by an independent court (or if agreed, arbitration) finding as to a FRAND rate for the pool.
- Abstain from involvement in, coordination of, or funding for member litigation.

Anticompetitive Conduct—In addition to the safe harbor, the updated TTBER and Guidelines should provide more details regarding conduct that is likely to violate competition law and may lead to enforcement actions. Such conduct should include:

- Failing to make a binding commitment to offer licenses on FRAND terms, or refusing to participate in independent FRAND adjudication.
- Coordinating litigation seeking injunctions by pool members (or patents owned by the pool) against willing licensees.
- Penalizing or disincentivizing members and/or licensees for entering into bilateral licenses on FRAND terms, including.
    - Retaining members that have refused to offer bilateral licenses.
    - Reimbursing (or otherwise compensating) members for litigation expenses only if those members obtain a pool license, rather than a bilateral license.

Competition Considerations—The Guidelines should provide more information regarding the competitive dynamics involved in pools and address:

- Identifying the inter and intra standard competition between pool members
- Recognizing that litigation coordination can lead to increased litigation, limiting the existence of procompetitive benefits associated with patent pools
- Noting that patent pools do not necessarily decrease transaction costs—and may in fact increase them—when pool licenses are limited to specific standards or product types.
- Obligations for pools to conduct *independent* essentiality and validity assessment of all portfolios contained in the pool.
- Obligations for pools to publish information sufficient to facilitate transparency in FRAND licensing, which may include, for example, the basis for the pool rate.

II. Technical Standards and the FRAND Commitment

Technical standards allow manufacturers to produce interoperable equipment by defining common protocols and specifications. Standards are ubiquitous in the modern world and include interoperability standards like 5G, Wi-Fi, and Bluetooth. Standards reduce the need for direct coordination during the product development process because each participant can design products around the agreed-upon specifications. Standards are developed by standard setting organizations (SSOs) which involve broad collaboration from industry stakeholders who work to identify and solve technical challenges necessary to establish uniform interoperability and product compatibility.

Standardization is particularly effective when an industry-wide uniform solution offers greater benefits than rapidly evolving, non-compatible technologies. In situations where the cost of frequent upgrades is high, and the advantages of such upgrades are limited, a stable, standardized foundation tends to serve the market more effectively.[4] In such cases, the value of the technology is significantly enhanced by the positive network externalities created through standardization—on its own, a given technology may have little standalone utility.[5] By agreeing on these shared specifications, companies can spread the cost of establishing the standard across an industry while mitigating the risk of it not being adopted and reducing redundant development efforts that would arise from parallel development of competing proprietary solutions.[6]

Although the adoption of a standard can slow certain aspects of 'upstream' innovation—since radical or non-backward-compatible changes become more cumbersome—it frequently triggers significant 'downstream' innovation among manufacturers who compete to utilize that standard.[7] Lower switching costs for consumers mean that they can more easily compare and migrate to products offering the best mix of quality, features, and price. As a result, manufacturers must continuously innovate in non-standardized features to differentiate themselves from rivals. This competitive dynamic drives substantial innovation in areas such as product design, user experience, and cost efficiency—outweighing the potential (and acceptable) impact on innovation of the technology underlying the standard.[8] Over time, the result is a healthier market ecosystem where interoperability, consumer choice, and sustained innovation all thrive.

Small businesses, including those the App Association represents, are particularly dependent on the widespread availability of standards on reasonable terms for implementation. These entrepreneurs, innovators, and developers can incorporate standardized features in their products by purchasing off-the-shelf modules without the need to design these components themselves or develop internal expertise in these technologies. Instead, they can dedicate their R&D resources to developing the unique features that set their products apart and bring them to market more swiftly.[9]

This is particularly true in the context of IoT products, which are typically specialized devices designed to focus on one or two distinctive and innovative features.[10] Small business developers often have a competitive advantage in this area because they can develop these specialized and innovative products without the costly overhead and infrastructure of larger organizations.

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[4] *See* Knutt Blind, *Standards and Innovation: What Does the Research Say?*, ISO Research & Innovation Papers at 8 (Jan. 2022), https://www.iso.org/files/live/sites/isoorg/files/store/en/PUB100466.pdf

[5] *See id.* at 9.

[6] See id.

[7] See id. at 8

[8] Raphael De Coninck, Christoph von Muellern, et al, *SEP Royalties, Investment Incentives and Total Welfare* at 3-4, Charles River Associates *prepared for* Fair Standards Alliance

[9] European Commission, *Commission Staff Working Document – Impact Assessment Report* ("Impact Assessment Report"), at 20 (Apr. 27, 2023) https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13109-Intellectual-property-new-framework-for-standard-essential-patents_en.

[10] *See* Joachim Henkel, *Licensing Standard-Essential Patents in the IoT*, 51 Rsch. Pol'y 1, 2 (2022).

A. Risks of Standardization and the FRAND Commitment

Despite the benefits of standardization, adopting standardized technology creates risks. Once a company develops and begins to sell a product with a standardized feature, it typically becomes costly to abandon the standard. This is especially true if the standard has been widely adopted by an industry, leaving no alternative solutions, as is the case with communications standards such as cellular and Wi-Fi.[11] This phenomenon, known as 'lock-in,' can make companies that market standard compliant products susceptible to 'hold-up'. Hold-up occurs when owners of the patented technologies essential to the standard—SEPs—use the threat of injunctive or exclusionary relief against locked-in manufacturers to extract unreasonable and excessive royalties. The risk of SEP hold-up can not only discourage companies from adopting standards but can also undermine many of the benefits standardization is intended to provide: it can increase costs for consumers, hinder innovation, and disadvantage small businesses.

To address this risk, many SSOs have developed intellectual property rights ('IPR') policies that require patent holders that voluntarily participate in the standard-setting process to make a binding commitment to license their SEPs on terms that are FRAND.[12] Many standards, like USB and Bluetooth, operate under royalty-free frameworks, where manufacturers either pay nothing or a flat administrative fee to use the features of the standard in their devices. For other standards, SEP holders may charge royalties for use of their patented technology under the condition that their licenses comply with their FRAND commitments.

The FRAND commitment, as its name specifies, requires SEP holders to license their patents on terms that are **f**air, **r**easonable, **a**nd **n**on-**d**iscriminatory. A FRAND rate 'should reflect the approximate value of [the SEP's] technological contribution, not the value of its widespread adoption due to standardization'.[13] The 'royalty rate must reflect the value attributable to the infringing features of the product, and no more'.[14]

B. The FRAND Commitment and Competition Law

The FRAND commitment is not merely a contractual tool used by SSOs to encourage adoption of their standards. '[T]he concept of FRAND has been developed in an attempt to limit the ability of SEP holders to abuse their market power and to provide effective access to the standard for all interested third parties'.[15]

Courts have recognized that SSOs, which are often comprised of representative from competing companies, are 'rife with opportunities for anticompetitive activit[ies]'.[16] 'There is no doubt that

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[11] Thomas Cotter, Erik Hovenkamp, Norman Siebrasse, *Demystifying Patent Holdup*, 76 Wash & Lee L. Rev. 1501, 1527–29 (2019).

[12] Some standard setting organizations use reasonable and non-discriminatory, or RAND, as the basis of their intellectual property policy. Despite the difference in terminology, they are considered functionally equivalent.

[13] *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1233 (Fed. Cir. 2014); *see also* Horizontal Guidelines at ¶ 460 ("The economic value of the IPR could be based on the present value added of the covered IPR and should be irrespective of the market success of the products, which is unrelated to the patented technology.")

[14] *Id.*

[15] Case COMP/M.6381 –*Google/Motorola Mobility,* Commission Decision at ¶ 107 (Feb. 13, 2012).

[16] *Am. Soc'y of Mech. Eng'rs, Inc. v. Hydrolevel Corp*., 456 U.S. 556, 571 (1982).

the members of such associations often have economic incentives to restrain competition and that the product standards set by such associations have a serious potential for anticompetitive harm'.[17] These cases recognized that an SSO that fails to establish and enforce policies prohibiting anticompetitive conduct can be held liable for violating antitrust laws. Competition authorities around the world have recognized that adopting IPR policies with FRAND licensing obligations is necessary for SSOs to claim the benefit of a safe harbor from competition enforcement.[18]

Ensuring the integrity of the FRAND commitment is paramount as industries implement connectivity technologies like 5G and Wi-Fi into their products. 'According to recent … estimates, some 25–30 billion devices in the home and workplace will be equipped with sensors, processors and embedded software.…'[19] 'For proper market functioning as the connected economy develops, it will be critical to all market actors that FRAND licensing practices are followed and that abusive assertions are prevented'.[20]

The FRAND commitment is particularly important for businesses developing new products. These companies must assess the costs and benefits of incorporating a particular standard early in the product development cycle, and it is critical that they have a sense of what their SEP licensing costs will be. The FRAND commitment is meant to give some foreseeability by providing a promise that the ultimate terms will be fair, reasonable, and non-discriminatory and not be extracted under the existential threat of market exclusion. However, in practice, that is not the case.

While 'the concept of FRAND has been developed in an attempt to limit the ability of SEP holders to abuse their market power and to provide effective access to the standard for all interested third parties,' it is not self-enforcing.[21] Companies bound by FRAND commitments still have the incentive to seek to evade their obligations to maximize their revenue. Ultimately, the ability of the FRAND commitment in constraining anticompetitive conduct rests on the courts and competition agencies to enforce it.

For these reasons, competition authorities have taken action against SEP holders that have sought to exploit their FRAND encumbered patents by excluding competitors or attempting to extract

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[17] *Allied Tube & Conduit Corp. v. Indian Head, Inc.,* 486 U.S. 492, 500 (1988).

[18] Eur. Comm'n, *Guidelines on the Applicability of Article 101 of the Treaty on the Functioning of the European Union to Horizontal Co-operation Agreements* ¶ 451 (Jul. 21, 2023).

[19] *Core Principles and Approaches for Licensing of SEPs* at 19*,* CEN-CENELEC CWA 95000, https://tinyurl.com/2wepm8yh

[20] *Id.* at 20.

[21] Case COMP/M.6381 –*Google/Motorola Mobility,* Commission Decision ¶ 113 (Feb. 13, 2012)

above-FRAND royalties.[22] Licensors that have attempted to abuse their SEP portfolio to have faced investigations and sanction.[23]

Competition authorities have thus repeatedly prohibited SEP abusers from pursuing injunctions against putative licensees except under narrow circumstances. Unless a licensee refuses or is unable to take a license on FRAND terms, a SEP holder that pursues injunctive relief may be engaging in anticompetitive conduct.[24]

Despite their FRAND commitments, SEP holders may sometimes demand royalties many times higher than the rates that courts ultimately adjudicate to be FRAND.[25] Unfortunately, SEP licensing suffers from several significant asymmetries that give licensors a significant advantage in negotiations, which allow them to extract these above-FRAND royalties. Notably, the power to threaten and obtain injunctions gives SEP holders significant coercive power over potential licensees. Moreover, the informational asymmetry between licensors and licensees amplifies this risk by making it exceedingly costly to negotiate with an aggressive SEP licensor.

C. SEP Injunctions Can Undermine FRAND Licensing

Injunctions can present an acute competition problem in the context of SEP licensing. 'When a technology is incorporated into a standard, it is typically chosen from among different options.'[26]

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[22] *See e.g.,* Case AT.39985—Motorola—Enforcement of GPRS Standard Essential Patents (Eur. Comm'n Apr. 29, 2014); *In re Robert Bosch GmbH*, 155 F.T.C. 713, 718–19 (Apr. 23, 2013) (enforcement action against party seeking injunctions for infringement of FRAND-encumbered SEPs against competitors willing to take licenses); *In re Dell Computer Corp.*, 121 F.T.C. 616, 618 (May 20, 1996) (enforcement action against party targeting competitors with patents essential to Dell's submissions to the VL-bus standard but not disclosed during the standardization process); Japan Fair Trade Commission, *Closing the Investigation on the Suspected Violation by One Blue, LLC of the Antimonopoly Act*, ¶¶ 1(2), 2(2), 3(3) (Nov. 18, 2016) https://tinyurl.com/5b88fbjy (finding that threatening a potential licensee's customers with injunctions—where the licensee was willing and in "a domestic competitive relationship" with pool members—was "in violation of . . . the Antimonopoly Act")

[23] *See e.g.*, Decision ¶ 49 Case COMP/38.636 – Rambus (Sept. 12, 2009) (recognizing SEP patent ambush scheme to extract excessive royalties as anticompetitive); *In re Motorola Mobility LLC & Google Inc.*, 156 F.T.C. 147, 201 (July 23, 2013) ("manufacturers, when faced with the threat of an injunction, are likely to surrender to higher royalty rates for SEPs"); *In re Union Oil Co. of Cal.*, Complaint, Docket No. 9305, ¶ 8(a) (FTC. Mar. 4, 2003), https://tinyurl.com/2yej3tyj (noting the increased royalties as an anticompetitive harm). Kim Yoon-kyoung and Kim Tae-gyu, *Qualcomm's $800M fine upheld by Kprea's Highest Court,* UPI (Apr. 14, 2023) https://tinyurl.com/3e25tuvy (noting the supreme court upheld a lower court verdict that "Qualcomm was violating antitrust regulations by failing to license its [SEPs] on [FRAND] terms").

[24] *In re Robert Bosch GmbH*, 155 F.T.C. at 830; *In re Motorola Mobility LLC & Google Inc.*, 156 F.T.C. at 167; *see also* Decision ¶ 247, Case AT.39985—Motorola—Enforcement of GPRS Standard Essential Patents (Eur. Comm'n Apr. 29, 2014).

[25] *See, e.g.*, *In re Innovatio IP Ventures, LLC Patent Litig.*11-C-9308, 2013 WL 5593609, at *43 (N.D. Ill. Oct. 3, 2013) (finding a RAND royalty of $0.0956 per unit as compared to the demand of $16.17 per unit for tablet computers); *Microsoft Corp. v. Motorola Inc.*, No. 10-1823, 2013 WL 2111217, at *99–100 (W.D. Wash. Apr. 25, 2013) (finding a FRAND rate of $0.03471 per unit compared to initial demands of $6–8 per unit); *Optis Cellular Tech. LLC v. Apple Inc.* [2023] EWHC 1095 (Ch) ¶¶ 342, 467(iv), 494 (May 10, 2023) (finding the FRAND rate was less than 2% of the rate demanded).

[26] *D-Link*, 773 F.3d at 1233; *see also* Expert Report of Friedhelm Hillebrand at 7 ¶ 11, C.A. No. 2330-VCS (Del. Ch. May 22, 2008), filed as ECF 359-2 in *Nokia Corp. v. Apple Inc.*, No. 1:09-cv-00791-GMS (D. Del. May 16, 2011) (noting that in in "nearly all cases," the European Telecommunications Standards Institute (ETSI) had choices during the development of the GSM and UMTS standards).

Once a patent becomes essential to a standard, those alternatives become unavailable for manufacturers seeking to adopt the standard. The inability of manufacturers to walk away means that injunctions and the threat of injunctions give SEP holders significant leverage.

The cost of market exclusion resulting from a granted injunction can be orders of magnitude higher than the excessive royalty demands made by SEP licensors.[27] As a result, potential licensees often face substantial pressure to accept above-FRAND royalties, particularly for smaller companies that cannot afford to engage in costly litigation. Above FRAND royalties paid for SEPs are ultimately passed on to consumers through higher prices or reduced investment in R&D.[28]

FRAND commitments thus limit SEP holders' ability to seek injunctions against manufacturers who adopt standards incorporating their SEPs.[29] Indeed, the 'normal exploitation of the patent in the context of standard-compliant products is to collect FRAND royalties.'[30] By committing to license its patents on FRAND terms, a SEP holder is acknowledging 'its objective [should it seek to monetize its patents] is not to stop the sale of infringing products but to collect royalties from the sales'.[31] 'Seeking injunctions against willing licensees of FRAND-encumbered standard essential patents … is a form of FRAND evasion and can reinstate the risk of patent hold-up that FRAND commitments are intended to ameliorate'.[32]

SEP injunctions against licensees that are able and willing to pay a FRAND rate 'threaten[] to increase prices and reduce the quality of products on the market and to deter firms from entering the market'.[33] Where a potential licensee has committed to taking a license on FRAND terms, the only reason 'to use the exclusionary power of injunctions . . . [is] to try to force the [licensee] to pay more than [a court would adjudicate to be FRAND]'.[34] Even the threat of an injunction can be used to evade a parties' FRAND commitment because: royalty negotiation that occurs under threat

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[27] John Hayes & Assaf Zimring, *Injunctions in Litigation Involving SEPs,* 6/2024 GRUR Patent 240, 242–43 (June 20, 2024), https://tinyurl.com/3dajevn4.

[28] *See, e.g.,* FTC, *Analysis of Agreement Containing Consent Order to Aid Public Comment*, at 3 (June 10, 2005), https://tinyurl.com/y5b53m6e. ("According to Unocal's own expert, approximately 90 percent of this royalty charge is likely to be passed on to California consumers" in a case involving SEP ambush); A. Doug Melamed & Carl Shapiro, *How Antitrust Law Can Make FRAND Commitments More Effective,* 127 Yale L.J. 2110, 2114 (2018).

[29] *Microsoft Corp. v. Motorola, Inc.*, 696 F.3d 872 (9th Cir. 2012) ("Implicit in [the FRAND] promise is, at least arguably, a guarantee that the patentholder will not take steps to keep would-be users from using the patented material, such as seeking an injunction").

[30] Impact Assessment Report at 122.

[31] *Id.* at 121.

[32] Federal Trade Commission, Analysis of Agreement Containing Consent Orders to Aid Public Comment, *In re Robert Bosch GmbH*, File No. 121-0081, Dkt. No. C-4377, at 4 (Apr. 23, 2013).

[33] Federal Trade Commission, Analysis of Proposed Consent Order to Aid Public Comment, *In re Motorola Mobility LLC & Google Inc.*, File No. 121-0120, Dkt. No. C-4410, at 4 (Jan. 3, 2013).

[34] *Panasonic Holds. Corp. v. Xiaomi Tech. UK Ltd.*, [2024] EWHC 1733 (Pat) ¶ 82 (Eng.).

of an exclusion order may be weighted heavily in favor of the patentee'.[35] As such seeking an injunction without negotiating in good faith constitutes a breach of the FRAND commitment.[36]

Competition authorities have thus repeatedly prohibited SEP owners from pursuing injunctions against willing licensees except under narrow circumstances. Unless a licensee refuses or is unable to take a license on FRAND terms, a SEP holder that pursues injunctive relief may be engaging in anticompetitive conduct.[37] The Commission has recognized that threatening, pursuing, or enforcing injunctions 'against a good faith potential licensee, may significantly impede effective competition by, for example, forcing the potential licensee into agreeing to potentially onerous licensing terms [which may include higher royalties] which it would otherwise not have agreed to'.[38]

D. The Information Asymmetry in SEP Licensing

In addition to the problem of injunctions, SEP licensing faces significant problems arising from an informational asymmetry. The asymmetry affords licensors a significant advantage that is ripe for and frequently abused. Licensors are well situated to assess the value of their portfolios, while licensees are not.[39] And this asymmetry is a global problem. As the Commission has found, 100% of licensees reported insufficient information about FRAND royalties and 97% reported insufficient information about the SEP landscape, while only a small fraction of SEP licensors claimed the same.[40]

This asymmetry is amplified by several factors:

- The SSOs that develop many standards, including Wi-Fi, do not require SEP holders that commit to FRAND licensing to disclose which of their patents they believe are essential.[41] This lack of disclosure makes it difficult for licensees to estimate the share of the standard held in a licensor's portfolio or their potential total licensing liability for using the standard.

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[35] Third Party United States Federal Trade Commission's Statement on the Public Interest at 2–3, *In re Certain Wireless Communication Devices, Portable Music & Data Processing Devices, Computers & Components Thereof,* Inv. No. 337–TA–745 (June 6, 2012) https://tinyurl.com/4n73ht3z (quoted with approval in *Apple, Inc. v. Motorola, Inc.,* 869 F.Supp.2d 901, 914 (N.D. Il., 2012) (Posner, J.)).

[36] *Telefonaktiebolaget LM Ericsson v. Lenovo (United States), Inc.*, 120 F.4th 864, 876 (Fed. Cir. 2024) ("if the FRAND commitment means anything of substance, it must mean that an SEP holder that has made such a commitment cannot just spring injunctive actions against other standard implementers without having first complied with *some* standard of conduct").

[37] Decision ¶¶ 495-96, Case AT.39985—Motorola—Enforcement of GPRS Standard Essential Patents (Eur. Comm'n Apr. 29, 2014); *see also In re Robert Bosch GmbH*, 155 F.T.C. at 830; *In re Motorola Mobility LLC & Google Inc.*, 156 F.T.C. at 167.

[38] Case COMP/M.6381 –*Google/Motorola Mobility,* Commission Decision at ¶ 107 (Feb. 13, 2012).

[39] Impact Assessment Report, at 36.

[40] Impact Assessment Report, at 36.

[41] Rudi Bekkers *et al*, *Disclosure Rules and Declared Essential Patents*, 52(1) Res. Pol'y 104618 at 3 (2023).

- For many standards, the vast majority of patents declared essential to the standard are not actually essential. Essentiality rates can vary significantly from portfolio to portfolio, and the cost of evaluating large portfolios can be prohibitively expensive.[42]
- SEP portfolios often have significant rates of invalid patents when actually litigated.[43]
- Royalty demands by SEP licensors often exceed the actual market rate, and smaller companies typically lack both access to the licensor's other licenses agreements and adequate experience to make their own FRAND estimations.[44]

As a result of these factors, licensees' attempts to estimate the aggregate royalty burden from using a standard and evaluate the value of an individual SEP portfolio can be incredibly expensive. Licensors typically do not need to make the former investment, while companies seeking to use the standard do. And while SEP holders only need to make the upfront investment cost in evaluating the value (and weaknesses) of their portfolio once, potential licensees are required to make this expenditure for every license negotiation. '[I]f a company (even a large one) is implementing the standard by using a component supplied by a third party, it will most likely have no knowledge of the relevant technology and must engage external experts to assist in the assessment of the royalty demand'.[45] This ultimately affords SEP more leverage in negotiations by driving up the costs for licensees.

These asymmetries pose a particularly significant problem for the SMEs (such as ACT's members) who typically source their standard implementing components from third parties and lack both the resources and experience needed to negotiate or litigate for FRAND terms. Indeed, 38% of SEP users reported that the 'costs involved in licensing SEPs (search, negotiation and litigation costs)' for SMEs was enough to make them 'go out of business/change business'.[46] In a recent study based on interviews with small and medium sized companies utilizing standards,[47] participants reported how these transaction costs make SEP licensing negotiations unaffordable:

- '[I]t is for startups … impossible to find one's way in this jungle. Because for example I completely lack transparency as to which patents the technology of [the] modem in my device actually uses.'
- '[A]s a startup, … as a small company, I have no way really of evaluating the legal validity of what [licensors] say or not. I have no way of knowing is this reasonable, or not reasonable when they actually say how much money they want, I have no idea

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[42] *See* John Hayes et al., Charles Rivers Assocs., *A Critical Review of 5G SEP Studies*, at 6 (Nov. 8, 2022) (noting studies have found SEP essentiality range from 8–33%), https://media.crai.com/wp-content/uploads/2022/11/09132755/Critical-Reviewof-5G-SEP-Studies_Nov-2022.pdf

[43] Matthew Rose, Jay Jurata, & Emily Luken, *"Between a Rock and a Hard Place": Unwired Planet v. Huawei and Dangerous Implications of Worldwide FRAND Licenses*, Concurrenes No. 84684 at 6 (2017).

[44] *See* Robert Pocknell, *Buying and Selling Smart Devices: SEP Licenses and Competition Law* (Mar. 25, 2024) https://www.keystonelaw.com/keynotes/buying-and-selling-smart-devices-sep-licences-and-competition-law.

[45] Impact Assessment Report at 20.

[46] Impact Assessment Report at 15.

[47] Joachim Henkel, *Licensing Standard-Essential Patents in the IoT*, 51 Rsch Pol'y 1, 6–7 (2022).

whether it is the same as anybody else or it's specific to me, is that fair, there is no way of judging. So I have no way of actually evaluating their request on any kind of merit."

- "[By trying to evaluate a licensing offer] I would only delay my own innovation of the time to market and add a lot of cost I cannot afford to pay."
- "[F]or a startup, it's a substantial expense to get educated, because they'll have to reach out for expertise…. It's a cost that you didn't plan for. It's also a liability that your financier may not appreciate…."
- "[C]ourt arbitration and legal proceedings are not an option for small companies . . .
- "[T]here is no way for us to fight it, we are too small to take on a large organization…."

Avoiding the cost of meaningful negotiations and litigation by acceding to SEP holders' demands can be detrimental to both the targeted small business and the market as a whole. Without the ability to meaningfully negotiate or litigate, small businesses often pay significantly more (on a per unit basis) than large licensees who have the resources and expertise to engage with SEP holders. In a recent case decided in the United Kingdom, the court observed that the only companies who paid the licensor's published "program rate" were "the smallest and least sophisticated licensees."[48] Another UK judge commented that *"*no implementer could stay in business paying [the licensor's] rates."[49]

III. The TTBER Guidelines Should Provide the Following Additional Guidance Addressing Standard Essential Patent Pools

Patent pools are agreements between two or more patent holders to license certain patents to each other, to third parties, or both.[50] The number of patents involved can range from a handful to potentially tens of thousands. Patent pools have become increasingly active in SEP licensing and instigators of litigation.[51] Existing pools have been expanding their programs into new standards, such as charging technologies and new codecs, and targeting new technology areas, such as IoT devices and electric vehicle infrastructure.[52]

A "patent pool may be regarded as a cartel" that "may provide an opportunity for possible anticompetitive behavior."[53] A SEP pool is typically made of a "group of SEP-holders bundling

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[48] *InterDigital Tech. Corp. v. Lenovo Group Ltd.* [2023] EWHC 539 (Pat) ¶ 516 (Mar. 16, 2023).

[49] *Optis Cellular Tech. LLC v. Apple Inc.* ¶ 467(iv) [2023] EWHC 1095 (Ch) (May 10, 2023).

[50] World Intell. Prop. Org., Patent Pools and Antitrust – A Comparative Analysis 3 (2014).

[51] *See, e.g.,* Nisha Shetty, *Unpacking the Spike in Patent Pool-Related Litigation*, IAM (Oct. 4, 2024) https://www.iam-media.com/article/unpacking-the-spike-in-pool-related-litigation; Nisha Shetty, *Surge of Recent Lawsuits Filed by SEP Licensors Connected to Patent Pools*, IAM (Sept. 27, 2024) https://www.iam-media.com/article/surge-of-recent-lawsuits-filed-sep-licensors-connected-patent-pools

[52] Angela Morris, *Patent Pool Administrator Calling for 3D Audio Licensors*, IAM (Jan. 9, 2025) https://www.iam-media.com/article/patent-pool-administrator-calling-3d-audio-licensors; Nicole-Anne Lagrimas, *Via LA's Licensing Partner ULDAGE Sets Out to Crack Japan's EV Charging Market*, IAM. (Mar. 12, 2025) https://www.iam-media.com/article/las-licensing-partner-uldage-sets-out-crack-japans-ev-charging-market

[53] World Intell. Prop. Org., Patent Pools and Antitrust – A Comparative Analysis 3 (2014).

their patents into a SEP-holder priced pool with the SEP-holders then using their patent rights to force implementers to accept the pool licence."[54]

Despite these concerns, SEP pools have been permitted under the belief that the pro-competitive benefits outweigh the anticompetitive harms.[55] The European Commission has viewed the potential harms to competition as being outweighed by the alleged procompetitive benefits—the decrease in transaction costs afforded by the need for fewer licensing negotiations and less litigation.[56]

A. Pools Should be Bound by Pool Members' FRAND Commitments

Recommendation: Paragraph 261(e) of the guidelines should be revised to require pools to commit to be bound by the FRAND licensing obligations of its members in order to benefit from the safe harbor.[57] Moreover, Paragraph 267 of the guidelines should be revised to include assumption of these obligations as a main principle in the assessment patent pools.[58]

The Commission already recognizes that the FRAND commitment is important and relevant in the context of pool licensing. One of the requirements for a pool to license technologies is that "the pooled technologies are licensed out to all potential licensees on FRAND terms."[59] Moreover, while pools "are normally free to negotiate and fix royalties for the technology package," the TTBER recognizes that that freedom is constrained by "any commitment given to license on [FRAND] terms."[60] Despite this, the problems in SEP licensing related to supra-FRAND royalties are particularly pernicious in the context of SEP pools, and there is growing evidence that patent pools are being used to circumvent FRAND commitments and charge above-FRAND royalties.

A fundamental principle of FRAND is that SEP royalty rates must "bear a reasonable relationship to the economic value of the [intellectual property rights]" [61] being licensed. Yet there is growing concern that some pools adopt rate methodologies entirely unrelated to the value of the patented technologies included in the pool.

Based on recent developments, it seems that some patent pools are operating under the view that the FRAND commitment simply does not apply to them. One patent pool has expressly argued that it is under no obligation to offer FRAND rates. The pool in question licenses cellular

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[54] *Tesla Inc. v. Idac Holdings, Inc.*, Claim No. HP-2023-0042 [2024] EWHC Pat (oral arg., May 20-22, 2024) at 133:4-6.

[55] World Intell. Prop. Org., Patent Pools and Antitrust – A Comparative Analysis 3 (2014).

[56] Guidelines on the Application of Article 101 of the Treaty on the Functioning of the European Union to Technology Transfer Agreements ¶ 245 (TTBER Guidelines), 2014/C 89/03 (Mar. 28, 2014), C(2023) 3445 final (Mar. 28 2014), https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014XC0328(01)&from=EN

[57] Paragraph 261(e) should be modified to include the underlined text: "the pooled technologies are licensed out to all potential licensees on FRAND terms and subject to the same licensing commitments of the parties contributing technology to the pool;"

[58] Paragraph 267 should be modified by adding the following underlined: "(e) pools should assume any licensing obligations undertaken by each of the parties contributing technology to the pool with regards to the pooled technology."

[59] TTBER Guidelines at ¶ 261(e).

[60] *Id.* at ¶ 268.

[61] Horizontal Guidelines at ¶ 460.

technology to the automotive and IoT sectors, and nevertheless markets its terms as being allegedly "FRAND".[62]

In a recent UK litigation where a potential licensee asked the court to adjudicate whether the pool's terms were *actually* FRAND, however, the pool argued that "it sits entirely outside of the ETSI/FRAND system."[63] The pool claimed that it "does not have any ETSI/FRAND obligation" because "[i]t owns no SEPs" and "has declared no SEPs to ETSI or any other standardisation body and . . . has not given any associated promise to ETSI or to anyone else to license on strict ETSI/FRAND terms."[64] The pool claimed that while it "believes its licences are . . . FRAND in the descriptive sense . . . whether or to what extent [its] licence satisfies a particular SEP holder's ETSI/FRAND obligation" is not something it could ensure.[65]

One of the pool's members involved in the litigation similarly disclaimed any FRAND obligation flowing from the pool's licensing of SEP holders' patents. It claimed that while "licence obligations under FRAND feed . . . into the pool, it is the collective, at most, that underpins that licence." There was thus "no discrete bit" of the pool "which is supported" by an individual member's license.[66] Similarly, in another litigation, one of the world's largest licensors indicated that it did not believe pools are obligated to license on FRAND terms, stating its intention to "challenge whether [a] pool license is FRAND at all," with the aim of undermining the pool's value as a comparable license during FRAND rate-setting litigation.[67]

The court in the UK litigation against the pool claiming the absence of a FRAND obligation ultimately dismissed the rate-setting claim on jurisdictional grounds. However, as noted in dissent, it is "implicit in this argument that the royalty rate can only be challenged, if at all, through the mechanism of competition law."[68] Allowing pools to effectively circumvent FRAND commitments would risk to put the relevant SSO out of compliance with the safe harbor afforded in the Commission's Horizontal Guidelines which requires them to provide rules that ensure FRAND licensing.[69]

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[62] *See generally* Michael A. Carrier, Brian Scarpelli, & Priya Nair, *Avanci's Admissions Cast Doubt on Pool's Procompetitive Effects*, Tech Reg Chronicle 44 (Mar. 2025).

[63] *Tesla Inc. v. Idac Holdings, Inc.*, Claim No. HP-2023-0042 [2024] EWHC Pat (oral arg., May 20-22, 2024) at 140:2-3.

[64] *Id.* 133:17-22

[65] *Id.* 134:17-22

[66] *Id.* 39:5-9.

[67] *Lenovo v. Ericsson* [2025] EWHC 613 (Pat) at ¶ 21.

[68] *Tesla Inc. v. Interdigital Patent Holdings Inc.* [2025] EWCA 193 at ¶ 94.

[69] Michael Carrier & David Katz, *Standards Organizations: The missing Link in Fixing FRAND Evasion*, Tech Reg Chronicle 16, 26 (Mar. 2025) ("First, as a general matter, it means that ETSI has failed to ensure that SEP licensing is available on FRAND terms. Second, ETSI's IPR policy failed to prevent participants from transferring or granting licensing authority without ensuring that the FRAND obligations move with it. Avanci's defense thus serves as an indictment of the sufficiency of ETSI's IPR")

B. Patent Pools Should Promote Rate Transparency

Recommendation: Paragraph 261 of the Guidelines should require pools to be willing to accept and be bound by an independent court (or if agreed, arbitration) finding as to a FRAND rate for the pool in order to benefit from the safe harbor.[70]

There is an emerging consensus that some pools seek royalties significantly above or disconnected from the FRAND rate. For example, a recent UK court decision determined that the aggregate royalty burden for the 4G cellular standard is approximately $5.58 per unit.[71] A pool that licensed 4G technology to automotive manufacturers and represented 50% of the 4G SEPs was seeking a $15 royalty per vehicle.[72] Not only is this almost 3X the aggregate FRAND royalty burden, but the aggregate royalty implied by the pool rate was $30 per vehicle, more than 5X that of the court determined FRAND rate.

Similar problems also appear to exist in in video codec licensing. An independent study found that the aggregate royalty of the HEVC H.265 standard should not exceed $0.28 per device.[73] Despite this, there are three *different* pools licensing the H.265 video codec each seeking royalties near or above the FRAND aggregate and that combined, seek royalties nearly 10X what the intendent study indicates is FRAND.[74]

Moreover, other pools engage in licensing practices that are disconnected from FRAND methodologies. A fundamental principle of FRAND is that SEP royalty rates must "bear a reasonable relationship to the economic value of the [intellectual property rights]"[75] being licensed. Yet some pools adopt royalties that increase based on features unrelated to the value contributed by their SEPs.[76] By charging more for a feature (i.e., higher power output, more expensive device)

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[70] Paragraph 261should be modified by adding the following underlined text after 261(e): (e*bis*) the pool obtains consent from all parties contributing patented technology to the pool to be bound by an independent rate-setting adjudication of FRAND terms for a pool license."

[71] In *Optis v. Apple*, the court awarded Optis a FRAND payment of $5.13 million per year based on holding 0.38% of SEPs for the 4G standard. See *Optis Cellular Tech. v. Apple Inc.* [2023] EWHC 1095 at ¶¶ 494, 497. This implies that Apple's total FRAND royalty burden would be $ 1.35 billion annually. In 2021, the year prior to the trial which would have provided the most recent data, Apple sold 242 million iPhones. David Curry, *Apple Statistics (2025)*, Business of Apps (Feb. 18, 2025) https://www.businessofapps.com/data/apple-statistics/. This implies an aggregate FRAND royalty of $5.58 per device.

[72] Bridget Diakun, *AVANCI Platform Covers Just Under 50% of 3G and 4G SEPs, Research for IAM Indicates*, IAM (Oct. 18, 2019) https://www.iam-media.com/article/avanci-platform-covers-just-under-50-of-3g-and-4g-seps-research-iam-indicates; Joff Wild, *Avanci Secures Deals with Audi and Porsche*, IAM (Apr. 13, 2019) https://www.iam-media.com/article/avanci-secures-major-german-breakthrough (noting $15 price).

[73] Unified Patents, *Independent Economic Study Suggests HEVC Royalties Should Be Comparable to or Less Than Rates for AVC* (Jan. 9, 2021) *https://www.unifiedpatents.com/insights/2019/1/9/independent-economic-study-suggests-hevc-royalties-should-be-comparable-to-or-less-than-rates-for-avc*

[74] John "Jay" Jurata Jr. & Emily N. Luken, *Glory Days: Do the Anticompetitive Risks of Standard-Essential Patent Pools Outweigh Their Procompetitive Benefits?*, 58 San Diego L. Rev. 417, 434 (2021).

[75] Horizontal Guidelines at ¶ 460.

[76] For example, a patent pool licensing cellular technology for electric vehicle chargers calculates royalties based on a charger's power output—a factor independent of the SEPs covering the cellular technology. Avanci, *Avanci EV Charger* (last visited Apr. 4, 2025) https://www.avanci.com/iot/evcharger/ (charging $5 for each charger with less

that has no direct bearing on the licensed technology, the pool effectively penalizes licensees for their own innovations. This can amount to "[d]iscriminatory licensing [that] is a 'success penalty'" that is inconsistent with FRAND.[77]

One way to resolve these problems with potentially excessive royalties would be for pools to participate in independent FRAND adjudications, which are now available in jurisdictions such as the UK, or where so agreed, by arbitration. FRAND adjudication can help resolve many of the transparency problems in SEP licensing by providing both an independent adjudication of the dispute between the parties and guidance for third parties to use for determining principled FRAND rates. However, despite the availability and benefits of these proceedings, some pools aggressively fight against attempts by licensees to use these processes to evaluate their rates.[78]

C. Pools Should Not Engage in Litigation Coordination That Facilitates Anticompetitive Holdup

Recommendation: Footnote 95 in paragraph 259 and paragraph 261(c) of the guidelines should be revised to include information regarding pool member patent enforcement as a category of sensitive information that undermines competition.[79]

Patent pools frequently appear to coordinate litigation among their members to target potential licensees. Coordinated actions often involve multiple licensors simultaneously seeking injunctive relief against a single defendant.[80] Some pools go even further and not only coordinate the

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than 25kW output, $9 for each charger output between 25kW and 150kW, and $11 for each charger with output greater than 150kW). Another pool licensing the H.265 video codec charges 4X the price for a connected device (game consoles, digital signs, desktop PCs) that sells for more than $80 dollars than it does for devices that sells for $20 or less—even though the devices use the standard in the same way. Access Adcance, *HEVC Advance Patent Pool: Royalty Rates Summary* (last visited Apr. 6, 2025) https://accessadvance.com/hevc-advance-patent-pool-detailed-royalty-rates/ (rate structures as of Jan. 1, 2025).

[77] David Katz, *Unfair Price Bias in Standard Essential Patents Needs to Stop*, Bloomberg Law (Nov. 22, 2023) https://news.bloomberglaw.com/us-law-week/unfair-price-bias-in-standard-essential-patents-needs-to-stop

[78] *See*, *e.g., Vestel Elektronik v. Access Advance LLC* [2021] EWCA Civ 440; *Tesla, Inc. v. InterDigital Patent Holdings* [2025] EWCA Civ 193; *Continental Automotive Sys. Inc. v. Avanci LLC*, 36 F.4th 1185 (5th Cir. 2022) (affirming district court dismissal of Continental's antitrust claim).

[79] Footnote 95 of paragraph 259 should be modified to include the underlined text: "For details on information sharing, *see* Horizontal Guidelines, point 55 pp. cited in footnote 27. In the context of pools, sharing information that allows parties contributing technology to the pool to coordinate litigation efforts may facilitate collusion, lead to collusive outcomes and increase the stability of an ant-competitive agreement. This information is not necessary for either the creation and operation of the pool,"

Paragraph 261(c) should be modified to include the underlined text: "sufficient safeguards are adopted to ensure that exchange of sensitive information (such as pricing, litigation strategy relating to any pooled technology, and output data) is restricted to what is necessary for the creation and operation of the pool."

[80] *See, e.g.*, *Letter from Former Government Officials, Professors, & Academics to DOJ re: Avanci Business Review Letter* at 4 (Oct. 17, 2022) https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4250512; Adam Houldsworth, *Microsoft Sued in Germany by Three Via LA HEVC Patent Licensors*, IAM Media (Apr. 2, 2025) https://www.iam-media.com/article/microsoft-sued-in-germany-three-la-hevc-patent-licensors

litigation, but promise to reimburse members that engage initiate litigation against pool determined targets in order to compel a pool wide license.[81]

One concern with this practice is if pools to coordinate—and in some cases fund—litigation campaigns in order for a member to obtain an injunction that can be used compel the putative licensee to take a pool-wide license. Given that pools do not benefit from (nor reimburse) litigations resulting in bilateral licenses, there is no reason for them to support their members seeking a bilateral license.

Given the practice of refusing to participate in pool-wide FRAND adjudication, it cannot logically be said that the goal of these injunctions is to bring a licensee to the negotiating table—a frequent refrain from some SEP licensors on the need for injunctive relief.[82] This is especially the case for pools that lack discretion to even negotiate rates with licensees but instead take a "one-size-fits-all" approach to their pool rate.[83]

In coordinating—and potentially funding—member's litigations, pools are facilitating their members' ability to pursue injunctive relief for FRAND encumbered patents in order to compel the target to accept a pool-wide license, while avoiding attempts by licensees to obtain an independent FRAND adjudication of pool terms. The strategy of favoring injunctive relief over FRAND determinations was recently recognized as holdup by an appellate court in the UK. As the court explained: "This demonstrates that [their] stance is not driven by jurisdictional preference with respect to FRAND determination. It is driven by a preference for the exclusionary power of a national injunction (or equivalent relief) over FRAND determination by any court. *This is hold up.*"[84]

Pool-driven injunction campaigns have proved remarkably effective at both obtaining injunctions and amplifying SEP market power. Because an injunction can represent an existential threat to the company, the mere possibility that one SEP holder could secure an injunction can force a licensee to agree to pool terms—regardless of whether that SEP holder would ultimately prevail in court. Such coordinated litigation significantly boosts the likelihood of extracting above-FRAND royalties. As shown in Appendix 1, licensors working in tandem through a pool can expect substantial gains by virtue of such collective action. Pools that reimburse litigation costs

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[81] Avanci, *Internet of Things ("IoT") Platform Master License Management Agreement* at 5.1.2 (produced in *FTC v. Qualcomm Inc.*, 17-CV-220 Dkt. 1306 (Jan. 1, 2019, N.D. Cal.) ("If a Licensor engages in Litigation against an Unwilling Licensee as notified under Article 4.8 of this Agreement, then such Licensor may request that LA reimburse its litigation Cost associated with such Litigation. Upon request, LA shall refund such Litigation Cost from the license Fees paid by such Unwilling Licensee (after deduction of the Commission, but before distribution of Total Net Collections to any other licensor) provided that all of the products accused of infringement in such Litigation are relevant to an applicable.")

[82] InterDigital, Inc., *Comment Letter on USPTO's Request for Comments on Standards-Related Patent Policy Issues* at 13 (Nov. 6, 2023), https://www.regulations.gov/comment/PTO-C-2023-0034-0042.

[83] *Tesla Inc. v. Idac Holdings, Inc.*, Claim No. HP-2023-0042 [2024] EWHC Pat (oral arg., May 20-22, 2024) at 129:5; 149:10-18 ("it is common ground that Avanci has no relevant authority to vary the terms upon which it licences. The licence it offers is that which was specifically approved by InterDigital and all platform licensors when each of them joined the platform. It is a standard form licence. Avanci's express mandate is for specific terms. It cannot possibly be said that Avanci, as agent, has failed to do what it was mandated to do by its principle, because it only operates with the pre-approved terms").

[84] *Lenovo Group Ltd. v. Telefonakiebolaget L Ericsson* [2025] EWCA 182 at ¶ 153.

exacerbate the problem by reducing financial risks for SEP holders, thus incentivizing aggressive royalty demands and lawsuits.

D. Pools Should Not Limit Bilateral Licenses

Recommendation: Paragraph 267 should be revised to prohibit agreements that result in the pooled technology being licensed on an exclusive basis.[85]

Patent pools demanding above-FRAND royalties would have a reduced ability to extract above-FRAND royalties if licensees had a genuine option of bilateral licensing with individual pool members. "Anticompetitive effects may arise from patent pooling arrangements that require payment for a pool of rights without a realistic opportunity as a practical matter to obtain individual licenses from individual owners as opposed to a single license from the pool."[86] However, some pools disincentivize members from entering into these agreements through coordinated litigation strategies. This coordinated—or collusive—conduct allows SEP holders to exert substantial leverage over manufacturers, enabling them to push for above-FRAND royalties.

Litigation coordination creates significant incentives against licensors entering into bilateral licenses. Licensors are only entitled to have their litigation costs reimbursed if the litigation target enters into a pool license. On the surface, this seems perfectly reasonable—why should the pool have to pay for the litigation costs of a member that effectively "defects" from the pool. Once a pool member begins expending resources on litigation, the pool imposes a cost if the licensor enters into a bilateral arrangement. This serves as a means for pools to enforce its own collective commitments, and may constitute an agreement by right holders "to limit their individual freedom of action in licensing future rights . . . during . . . the lawsuit," which violates competition law.[87]

The results of such practices are evidenced in the regularity that a pool member's litigation success ultimately results in a licensee taking a pool, rather than a bilateral license. The examples of this are numerous.[88] These strategies evidence that the supposed competition between bilateral

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[85] Paragraph 267 should be modified to include the underlined text: "(f) pools should not limit the ability of parties contributing technology to the pool from entering into bilateral licenses such as through litigation reimbursements or include members that refuse to take licenses on these terms"

[86] *Samsung Electronics Co. v. Panasonic Corp.*, No. C 10-3098, 2015 WL 10890655 at *5 (N.D. Cal., Sept. 30, 2015).

[87] *Primetime 24 Joint Venture v. NBC*, 219 F.3d 92 102-03 (2d. Cir., 2000)

[88] *See, e.g., Letter from Former Government Officials, Professors, & Academics to DOJ re: Avanci Business Review Letter* at 4 (Oct. 17, 2022) https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4250512 ("In some cases, the parties publicly announced that the cases were resolved because vehicle manufacturers agreed to Avanci licenses.10 But even when Avanci licenses were not publicly announced, the timeline of pool members dismissals indicate settlements involving pool licenses"); Adam Houldsworth, *Huawei Secures Fabourable Settlement with Netgear Following Major UPC Win*, IAM (Jan. 6, 2025) https://www.iam-media.com/article/huawei-secures-favourable-settlement-netgear-following-major-upc-win ("'Netgear has taken a Wi-Fi 6 pool licence from Sisvel', the patent pool administrator **announced** over the weekend, adding that 'The agreement resolves all Wi-Fi-related litigation between Netgear and Huawei, a licensor in the Sisvel Wi-Fi 6 pool'"); Angela Morris, *BLU Products Ends Dolby and Philips Lawsuits with One Pool License*, IAM (Dec. 19, 2024) https://www.iam-media.com/article/blu-products-ends-dolby-and-philips-lawsuits-one-pool-licence

and pool licenses is in some cases not actually present. Indeed, licensors have relied on pool offers (while refusing to make bilateral offers) when seeking injunctive relief in order to satisfy the "FRAND offer" requirement established under *Huawei v. ZTE*. Some have also claimed in public proceedings that their FRAND commitment is fulfilled via the pool offer, such that they do not need to offer bilateral licenses.[89]

E. Pools Should Not Exacerbate Information Asymmetry

Recommendation: Paragraph 261(b) of the Guidelines should expand the requisite safeguards to include validity reviews of the pooled technology as part of the safeguards aimed at ensuring the pool is only licensing technology with underlying intellectual property rights. The paragraph should also require pools to disclose information regarding the licensed portfolios including the covered patents, the nature of the essentiality review, and which patents were reviewed.[90]

The Commission has recognized that one of the significant problems plaguing SEP licensing is an informational asymmetry that gives licensors a significant advantage in SEP negotiations. Recognition of this problem was one of the motivating factors behind the development of the SEP Regulation proposed in 2023. However, the way that certain pools operate amplifies and exacerbates the existing informational asymmetry. The TTBER and guidelines should address this conduct.

Patent pools can exacerbate the transparency problems that are prevalent in SEP licensing. Currently, there is no requirement for pools to disclose which patents are covered under a pool license. While many pools do provide this information, not all do.[91] Not only can this make it difficult for licensees to determine the reasonableness of the pool's offer, it also makes it harder for licensees to identify what patents pool members may have divested to non-practicing entities that are not pool members. In some areas of technology, there are multiple pools licensing technology that frequently have overlapping members. Without patent disclosure, it is difficult for licensees to know which patents they already have licenses for.

Additionally, while patent pools frequently rely on some amount of supposedly independent essentiality checks to screen out non-essential patents, the methodologies used are often not disclosed. This can make it difficult for licensees to know whether those SEPs were subjected to a rigorous essentiality review or simply a rubber stamp. Moreover, there is significant variation

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[89] *See Godo Kaisha IP Bridge 1 v. Ford-Werke GmbH,* No. 7 0 9572/21 (Munich I Regional Court (Ger.) May 19, 2022) (Non-Confidential Meeting Minutes) (noting IP-Bridge refused to allow Ford a bilateral license)

[90] Paragraph 261(b) of the Guidelines should be modified by adding the underlined text: "(b) sufficient safeguards are adopted to ensure that only essential technologies (which therefore necessarily are also compliments) <u>with independently analyzed and validated intellectual property rights</u> are pooled;

<u>(b*bis*) the pool furnishes licensees a list of all covered technologies, verification that the technologies are complements with valid intellectual property rights by independent experts, the methodologies used in said verification, and the qualifications of said independent experts</u>"

[91] Jay Jurata & Emily Luken *Glory Days: Do the Anticompetitive Risks of Standards-Essential Patent Pools Outweigh Their Procompetitive Benefits?*, 58 San Diego L. Rev. 417, 429 (2021).

in terms of how many patents are subjected to essentiality checks, with some pools requiring all patents to undergo some form of review and others only requiring one.[92]

F. Pool Members Compete for Royalties Within Standards

Recommendation: Section 4.4 of the Guidelines should recognize SEP licensors as competitors within a technology market.

While SEPs may be complementary in a technological sense, there is still competition among SEP holders—stemming from their FRAND commitments and the processes used to establish FRAND terms. Courts and negotiators often rely on two primary methods to determine FRAND rates: the "top-down" approach and the "comparable license" approach.[93] The top-down method starts with an aggregate royalty for a fully licensed standard and allocates a portion to each patent holder based on the size and quality of its SEP portfolio. Likewise, the comparable-license method looks to third-party license agreements—including those from different licensors—to gauge an appropriate royalty rate.

Both methods require measuring the relative strength of a given licensor's portfolio against either the total pool of patents or portfolios from comparable licensors. Essentiality rates, patent validity, and geographical distribution can vary widely across different SEP portfolios, influencing these assessments.[94]

Because a SEP holder's slice of the aggregate royalty depends on the relative strength of its portfolio, SEP owners are effectively "competing for a share of the overall patent stack."[95] This competition can be intense. One major licensor likened it to "cats in a sack" when each licensor must seek to justify its own royalty rate to the others.[96] This notion of intra-standard royalty competition aligns with the Technology Transfer Block Exemption Regulation (TTBER), which calculates market shares based on each technology's share of total licensing income—recognizing that licensors can indeed be competitors.[97] Some pools acknowledge this by withholding certain patent valuation data, citing potential "major competition problems if [licensors] were sharing information."[98]

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[92] *Id.*

[93] *See* Georgios Efframidis, Dan Werner, & Kristopher Boushie, *Determination of FRAND Royalty Rates: an Examination of Prominent SEP Cases*, 19(1) Journal of Intellectual Property Law & Practice 64, 70 (2024).

[94] *See* John Hayes et al., Charles Rivers Assocs., *A Critical Review of 5G SEP Studies*, at 6 (Nov. 8, 2022) (showing that some studies have found that the essentiality rate of major SEP holders with the lowest essentiality rates is almost half of those with the highest); Matthew Rose, Jay Jurata, & Emily Luken, *"Between a Rock and a Hard Place": Unwired Planet v. Huawei and Dangerous Implications of Worldwide FRAND Licenses*, Concurrenes No. 84684 at 6 (2017).

[95] *Tesla Inc. v. Idac Holdings, Inc*., Claim No. HP-2023-0042 [2024] EWHC Pat (oral arg., May 20-22, 2024) at 56:22-24 (statement of InterDigital).

[96] *Id.* at 58:16 (statement of InterDigital).

[97] Guidelines on the Application of Article 101 of the Treaty on the Functioning of the European Union to Technology Transfer Agreements ¶¶ 25; 87, 2014/C 89/03 (Mar. 28, 2014), C(2023) 3445 final (Mar. 28 2014), https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014XC0328(01)&from=EN.

[98] *Tesla, Inc. v. Idac Holdings, Inc*., Appeal No. CA-2024-001749, [2024] EWCA Civ (oral arg., Dec. 2-3, 2024) at 142:10-16.

The process of determining FRAND rates thus pits SEP holders against one another in a pursuit of favorable royalty shares. Recognizing this dimension of competition is essential to evaluating whether a pool is structured in an anticompetitive manner that risks to impose supra-competitive royalties on licensees.

G. Pool Managers Should License Competing Standards

Recommendation: Paragraph 261 should be revised to require that pools be willing to license competing standards on an individual basis, without requiring a bundled license to multiple competing standards.[99]

In emerging areas like electric vehicle (EV) charging, multiple standards often compete to become the market norm. Yet some patent licensing groups have begun including portfolios from all these competing standards into a single licensing pool.[100] This effectively bundles patents covering different standards, undercutting implementers' ability to choose their preferred technology at a more favorable royalty. When patents for rival standards are consolidated, implementers may feel pressure to license the entire package—regardless of which standard they actually need—diminishing genuine competition between those standards.

From a competition perspective, pooling patents for competing standards in one framework can stifle innovation and market-driven selection of superior technologies. If a licensing group mandates a blanket license to multiple standards, implementers lose the flexibility to adopt only the standard they find most cost-effective or best suited to their products. This can raise barriers to entry for new standard-setting initiatives, increase royalty burdens on manufacturers, and reduce the incentive for standard developers to improve their own offerings. In short, consolidating competing standards in a single pool risks suppressing the very competition that FRAND policies are meant to foster.

Even if pools covering competing standards are not formally bundled, serious concerns arise if a single licensing manager oversees both pools. By setting separate royalty rates for each standard, that manager effectively gains the power to influence which standard the market adopts. Instead of standards competing directly on price and technical merit, the licensing manager can tilt the playing field by making one pool's royalties more attractive (or less costly) than another's. This reduces the independence of genuine market-based competition between standards and may steer implementers towards the standard the manager favors, thereby undermining the core purpose of FRAND and harming overall competition in the marketplace. The potential competitive harm from this would be particularly acute during the nascent phase of a technology when standards are still competing.

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[99] Paragraph 261 should be modified by adding the following underlined text: "(h) the technology pool is willing and able to license pooled technology on a standard-by-standard basis, rather than only by bundling multiple standards".

[100] *See* Via Licensing Alliance, *Essentiality Overview* (last visited April 4, 2025) https://www.via-la.com/licensing-2/ev-charging/ev-charging-essentiality-overview/ (identifying the competing standards licensed under their EV charging license); Via Licensing Alliance, *EV Charging License Fees* (last visited April 4, 2025) https://www.via-la.com/licensing-2/ev-charging/ev-charging-license-fees/ (showing standard agnostic program rates); *see also* Angela Morris, *"Four Codecs for One Price": Access Advance CEO On New Video Streaming Pool*, IAM (Jan. 17, 2025) https://www.iam-media.com/article/four-codecs-one-price-access-advance-ceo-new-video-streaming-pool

H. Pools Do Not Always Produce Procompetitive Efficiencies

Recommendation: Paragraph 245 of the Guidelines should recognize that the cost reductions associated with patent pools should be evaluated on a case-by-case basis.[101]

Patent pools are frequently justified on the grounds that they reduce the number of licenses that need to be negotiated and frequency of litigation which in turn, reduce the need for litigation. The theory behind this presumption is that instead of needing a license from each individual company, a manufacturer need only obtain a single license from the pool. On the surface, this may seem to be a reasonable assumption, however, in practice, it has often not been the case.

First, patent pools can lead to more litigation. While patent pools can offer a license representing SEPs from multiple members, litigation is typically undertaken by members who bring cases individually. As a result, patent pools do not reduce the amount of SEP litigation. Indeed, not only do patent pools fail to reduce the amount of SEP litigation, they appear often to increase it.

As explained above, patent pools can create incentives for more litigation by coordinating the timing and targets of its members litigation campaigns. This incentive is further heightened when the pool reimburses litigation expenses. This coordination frequently leads to multiple suits filed simultaneously against a single defendant and has caused an explosion of pool related SEP litigations.[102]

A study of German SEP cases between 2015 and 2023 that reached a determination on whether to issue injunctions found that 41% of these decisions involved pools.[103] Moreover, the pool related decisions likely undercount the number of actual pool related assertions which frequently involve multiple parallel assertions and result in a pool license once a single injunction is obtained.[104]

For example, between March 2019 and September 2020, there were at least 26 different SEP actions against two auto manufacturers connected to a *single* pool.[105] This included 20 actions

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[101] Paragraph 245 of the Guidelines should be modified with the underlined text: "Technology pools can produce pro-competitive effects, in particular by reducing transaction costs and by setting a limit on cumulative royalties to avoid double margianlisation. The creation of a pool allows for one-stop licensing of the technologies covered by the pool. This is particularly important in sectors where intellectual property rights are prevalent and licenses need to be obtained from a significant number of licensors in order to operate on the market. Whether these pro-competitive effects are realized must be evaluated on a case-by-case basis. Where a pool incentivizes litigation or results in the need for more licenses, these benefits may be lost."

[102] *See* Nisha Shetty, *Unpacking the Spike in Patent Pool-Related Litigation*, IAM (Oct. 4, 2024) https://www.iam-media.com/article/unpacking-the-spike-in-pool-related-litigation

[103] Justus A. Baron, Santiago Bergalo, and Eric Sergheraert, *Empirical Analysis of the German Caselaw on SEP Injunctions After Huawei v. ZTE* at 23, BRELA (June 6, 2024) https://brela-research.com/2024/05/14/empirical-analysis-of-the-german-caselaw-on-sep-injunctions-after-huawei-v-zte/

[104] *See e.g.,* Amy Sandys, *Ford Takes Avanci License in Wake of Munich Judgment*, Juve Patent (May 31, 2022) https://www.juve-patent.com/people-and-business/ford-takes-avanci-licence-in-wake-of-munich-judgment/

[105] John "Jay" Jurata Jr. & Emily N. Luken, *Glory Days: Do the Anticompetitive Risks of Standard-Essential Patent Pools Outweigh Their Procompetitive Benefits?*, 58 San Diego L. Rev. 417, 441-42 (2021).

brought in Germany alone, which is notable because between 2009 and 2018, German regional courts saw, on average, 18.5 SEP litigations per year.[106]

Second, patent pools do not necessarily decrease the number of licenses that a licensee needs for their product. Standardized products often use many different standardized features. These can include multiple wireless connectivity solutions (such as 3G, LTE, 5G, Wi-Fi 5, and Wi-Fi 6), memory (RAM and flash memory), and audio/video codecs (AAC, AVC, and HEVC) as well as many other standards that are even less well known.[107]

When parties enter into bilateral license agreements, those agreements often provide a license or other form of patent to a party's SEPs from multiple standards. As a result, one bilateral license agreement—particularly with the larger patent holders—can cover dozens of standards.

Patent pools, on the other hand, typically only offer a license to the covered standard. Some patent pools do not even offer a license to the entire standard, but only specific releases. Sisvel, for example, only offers a license covering W-Fi 6.[108] Other pool licenses—such as Avanci's automotive programs which licenses cellular technology—only cover certain types of product.[109] This means that entering into a pool license provides no patent peace between a licensee and the pool members with regards to any other standards implemented in the product or products not covered by the pool. As a result, these companies must still engage with and enter into a bilateral license with any pool member that holds SEPs to another standard.

IV. Conclusion

ACT| The App Association again thanks the Commission for this opportunity to comment on the updated TTBER and guidelines and commits that it will remain available to the Commission if there are any follow-up questions or issues.

Sincerely,

Mike Sax

Founder and Chairperson

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[106] Justus Baron, Pere Arque-Castells *et al*, *Empirical Assessment of Potential Challenges in SEP Licensing* at 133, European Commission (2023) https://www.lexisnexisip.com/wp-content/uploads/2023/09/Empirical-Assessment-of-Potential-Challenges-in-SEP-Licensing.pdf

[107] *Cf* Ann Armstrong, Joseph Mueller, and Tim Syrett, *The Smartphone Royalty Stack: Surveying Royalty Demands for Components Within Modern Smartphones*, Working Paper (May 29, 2014) https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2443848

[108] Sisvel, *Wi-Fi 6 Licensing Terms* (last visited Apr. 3, 2025) https://www.sisvel.com/licensing-programmes/Wi-Fi/wifi-6/#tab-licence-terms.

[109] Avanci, *Avanci Vehicle* (last visited Apr. 23, 2025) https://www.avanci.com/vehicle/ (defining products covered by the license as "connected vehicles, including passenger vehicles, buses, trucks, and agricultural, construction, and other types of industrial vehicles").

Appendix 1: Comparison of Individual and Pool Litigation Outcomes

This appendix presents a stylized model that demonstrates how SEP holders may deploy litigation strategies—particularly when coordinating through a patent pool—to secure royalties well above FRAND rates. The model examines and compares injunction-driven litigation both by individual SEP holders and as part of a pool coordinating and funding litigation by its members. The model assumes that when faced with an injunction, a licensee often may be incentivized to accept an above-FRAND royalty demand. It also assumes that if the litigation fails, the parties typically would enter into a license on terms that are actually FRAND. The model is not intended to be exact but instead to show how pool driven litigation coordination makes potential disparities between SEP licensors seeking injunctions and licensees subject to injunctions worse.

The model indicates that patent pools that include mechanisms which partially externalize individual members' costs can amplifying the efficacy of injunction driven litigation as a means to extract above-FRAND royalties over the base case of individual injunction-driven litigation creating incentives to litigate. Under these conditions, patent pools can increase the total cost—including royalties and litigation costs—to licensees, undermining claims that pools ultimately provide savings for licensees.

A. Model Structure

The model is premised on a scenario where a SEP holder is entitled to a FRAND license worth R_F but makes an above FRAND license demand to a willing licensee seeking R_P. While the licensee would be willing to pay R_F,[110] it refuses to take a license at demanded above FRAND rate and the SEP holder asserts a single SEP from its portfolio (for example, in a German court) seeking injunctive relief. Once litigation begins, ρ is the probability that the assertion fails (i.e., the patent is found invalid or not infringed).

1. Expected Outcomes from Non-Pool SEP Litigations

Consider the case of a single SEP holder seeking the above FRAND royalty and making an assertion. If the assertion fails, then the parties will enter into a license on FRAND terms[111] with the SEP holder paying the litigation costs of the licensee as well as its own costs or $2 \cdot C_I$.[112] Conversely, if the SEP holder prevails, it will obtain an injunction against the licensee and the licensee will enter into a settlement before the injunction goes into effect that pays the above FRAND demand. Because settlement occurs before a final decision, there is no fee shifting and the parties bear their own litigation costs associated with the assertion, C_I.

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[110] In this scenario, the FRAND rate could either be known or the licensee has committed to be bound by the results of a FRAND determination.

[111] The model assumes that the number of patents in the SEP holder's portfolio is large enough where one invalidity or non-essentiality decision does not materially impact its overall value.

[112] The model assumes litigation occurs in a fee-shifting jurisdiction such as Germany.

But SEP holders often bring multiple actions in parallel. If the SEP holder brings n litigations against the licensee, then the probability that all of the assertions fail is ρ^n. The number of assertions is determined by the SEP holder. As such, the number of litigations will be the value that maximizes the expected return. Under this scenario, if all of the assertions fail, then the parties will enter into an agreement on FRAND terms with the licensor paying the costs. However, if the SEP holder obtains an injunction in a single action, then the parties will settle at the above FRAND rate with each party paying its litigation costs for the *n* litigations. The expectation value for the SEP holder litigating individually can thus be represented by:

$$\Pi_{\mathrm{I}} = \rho^{\mathrm{n}}(\mathrm{R_F} - 2 \cdot \mathrm{n} \cdot \mathrm{C_I}) + (1 - \rho^{\mathrm{n}})(\mathrm{R_P} - \mathrm{n} \cdot \mathrm{C_I}).$$

Meanwhile, the expectation value for the licensee under this scenario would be represented by:

$$\Delta_I = -\rho^{\mathrm{n}} \cdot \mathrm{R_F} - (1 - \rho^{\mathrm{n}})(\mathrm{R_P} - \mathrm{n} \cdot \mathrm{C_I})$$

2. Expected Outcomes from Pool Coordinated SEP Litigations

Suppose that instead of litigating individually, the SEP holder is part of a pool with τ members and where each member is entitled to an equal share of the pool. The pool demands an above FRAND royalty of R_P per pool member. As part of the pool agreement, the pool manager takes a commission of $\xi \cdot R_P$ from each pool member from a license as a management fee, where $0 < \xi < 1$.

After subtracting its management fee, the pool then pays the litigation costs, C_P, associated with any member asserting a valid and essential patent in a litigation that helps lead to a pool license. Thus, where a pool license is entered into, each pool member pays $\frac{C_P}{\tau}$ from each litigation. The model also assumes that pool members will bring n litigations asserting a single patent.[113] The number of litigations will be determined by the pool members. As such, the number of litigations will be the value that maximizes the expected return of litigating members.

As above, it may be assumed that if all of the assertions fail, then the parties will enter into an agreement on terms that are actually FRAND, with the licensor paying the costs. Because there is no pool license, the pool will not reimburse litigation costs so each litigating member must pay the litigation costs. However, if one pool member obtains a preliminary injunction, then the licensee will settle and take the pool license at the above FRAND rate and paying $n \cdot C_P$ in litigation costs. Each pool member, meanwhile, will have $n\frac{C_P}{\tau}$ in litigation costs for the n litigations deducted from its share of the pool revenue.

The expected value for a pool member litigating in the pool can thus be represented by:

[113] The model also assumes that pool members will each only bring a single action. This is not entirely representative as in many cases, multiple pool members bring multiple parallel litigations during coordinated pool litigations. *See* John "Jay" Jurata Jr. & Emily N. Luken, *Glory Days: Do the Anticompetitive Risks of Standard-Essential Patent Pools Outweigh Their Procompetitive Benefits?*, 58 San Diego L. Rev. 417, 441-42 (2021).

$$\Pi_L = \rho^n\ (R_F - 2 \cdot C_P)\ + (1 - \rho^n)(1 - \xi)(R_P - \frac{n \cdot C_P}{\tau})$$

Not all pool members litigate, of course. Those that do not will not have to pay the litigation costs in the event that the pool loses all litigations but will pay their share of the litigation costs on a pool victory.[114] These SEP holders will have an expected value of:

$$\Pi_N = \ \rho^n R_F + (1 - \rho^n)(1 - \xi)(R_P - \frac{n \cdot C_P}{\tau})$$

The value that the pool members will collect on average is equal to

$$\Pi_P = \frac{1}{\tau}(n\ \Pi_L + (\tau - n)\Pi_N)$$

Similarly, the expectation value for a licensee faced with a pool coordinated action can be represented by

$$\Delta_P = -\ \rho^n\ R_F - \ \ (1 - \rho^n)\ (R_P + n\ C_P)$$

B. Applying the Model with Real World Examples

Assume a licensee with FRAND liability to a group of SEP holders over the life of a license agreement is € 10 million. This would be representative of a license extracted from a mid-sized company selling several million units per year in the IoT space. To estimate a non-FRAND rate, we assume that a pool rate may exceed a FRAND rate by 4X.[115] The model thus uses an above FRAND pool royalty demand of € 40 million.

Patent pool membership can vary significantly, and while some pools only have a handful of members,[116] many pools have 15-50 or more members.[117] The FRAND and pool rate per member for pools with sixteen, twenty-five, and fifty members would be:

Pool Size (τ)	FRAND Rate per Member (R_F)	Pool Rate Per Member (R_P)
16	€ 625,000	€ 2,600,000
25	€ 400,000	€ 1,600,000
50	€ 200,000	€ 800,000

[114] Avanci, *Internet of Things ("IoT") Platform Master License Management Agreement* at 5.1.2 (produced in *FTC v. Qualcomm Inc.*, 17-CV-220 Dkt. 1306 (Jan. 1, 2019, N.D. Cal.) ("If a Licensor engages in Litigation against an Unwilling Licensee as notified under Article 4.8 of this Agreement, then such Licensor may request that LA reimburse its litigation Cost associated with such Litigation. Upon request, LA shall refund such Litigation Cost from the license Fees paid by such Unwilling Licensee (after deduction of the Commission, but before distribution of Total Net Collections to any other licensor) provided that all of the products accused of infringement in such Litigation are relevant to an applicable.")

[115] *See discussion in* III.B discussing the basis for this assumption.

[116] EV Charging Licensors, Via LA (last visited April 10, 2025) https://www.via-la.com/licensing-2/ev-charging/ev-charging-licensors/ (8 members).

[117] *See, e.g.*, 5G Multimode Patent Owners, Sisvel (last visited April 10, 2025) https://www.sisvel.com/licensing-programmes/mobile-communications/5g-multimode/#tab-patent-owners (16 members); HEVC Advance Patent Pool List of Licensors, Access Advance (last visited April 10, 2025) https://accessadvance.com/hevc-advance-patent-pool-licensors/ (50+ members).

Litigation costs can vary based on the amount at issue in a dispute.[118] The amount in dispute—the difference between the FRAND and non-FRAND payment—in an action brought by a pool member would be approximately € 30 million because if the licensee lost, they would be forced to take a pool license at the inflated rate. The expected costs per side for a litigation in Germany will be C_P = € 650,000.[119] Meanwhile, for a SEP holder litigating independently, the amount in dispute would vary from € 600,000 to € 2 million. For disputes of this size, a floor of legal costs can be assumed with an approximate litigation cost per side of C_I = € 110,000.

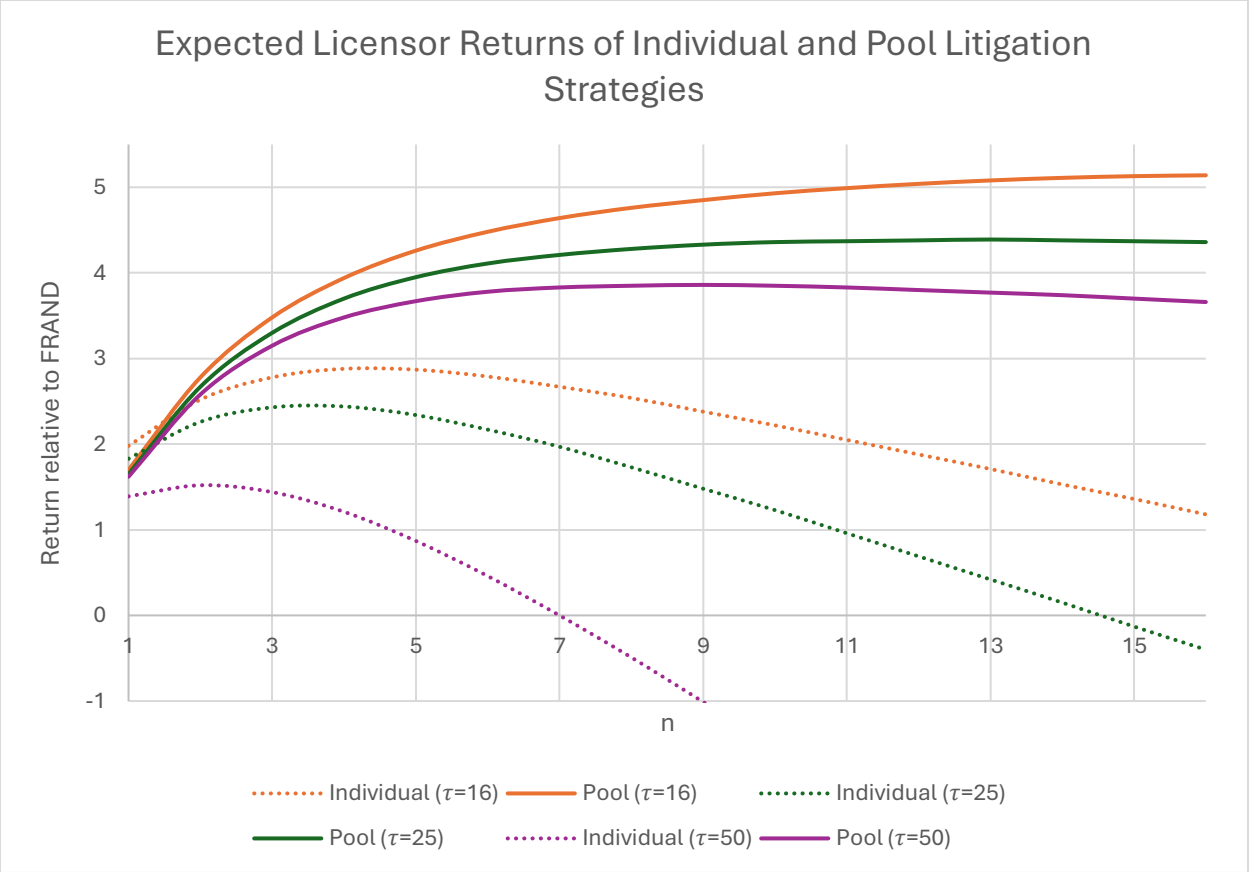
For the litigation outcome probability, literature suggests that SEP holders prevail, on average, in 58% of cases.[120] This provides a probability value of $\rho = 58\%$.[121]

Finally, although patent pool management fees are not known, we assume a management fee of 20%, or ξ =0.2. This would be a significant amount given that some pools generate hundreds of millions of dollars annually. An overestimation, however, would yield conservative results as it would decrease the net benefits for participating in the pool by SEP holders.

5.Quantitative Results and How Much Outcomes Exceed FRAND

Putting these values into the above equations, we can look at (1) the expected revenue from litigating by an individual SEP holder and (2) the expected revenue for litigating pool members to determine the optimal litigations that would be used under the individual and pool litigation approach for each pool size. The values are expressed as a fraction of the FRAND value ($\frac{\Pi_I}{R_F}$ or $\frac{\Pi_P}{R_F}$).[122]

[118] Justus Baron et al, *Empirical Assessment of Potential Challenges in SEP Licensing* at 126, European Commission (2023) ("It also seems unrealistic that actual litigation costs are completely independent of values in dispute").
[119] *Id.*
[120] Mark Lemley and Timothy Simcoe, *How Essential Are Standard-Essential Patents*, 104 Cornell L. Rev. 607, 624 (2019).
[121] The ultimate result—that pools which allocate litigation costs among members increase the ability of members to extract above FRAND royalties through injunction driven litigation—is true for any reasonable probability value (i.e., $0.05 < \rho < 0.95$) in the hypothetical pool sizes.
[122] An expected return of 1 in this context would mean that the party had obtained a FRAND return. In practice, the transaction costs associated with negotiation mean that SEP holders expected recovery would be slightly below 1 and licensees expected cost would be slightly above 1. A ratio of 3 means that the SEP holder or licensee is paying 3X the FRAND rate.



Using these "optimal" litigation strategies, we can compare the outcomes relative to FRAND for independent litigation versus coordinated pool litigation for both SEP holders and licensees.

	$\tau = 16$		$\tau = 25$		$\tau = 50$	
	Individual	Pool Member	Individual	Pool Member	Individual	Pool Member
Optimal strategy (n)	4	16	4	13	2	9
Expected Revenue Relative to FRAND	2.88	5.14	2.44	4.39	1.52	3.86
Cost to Licensee Relative to FRAND	4.05	5.03	4.41	4.83	3.05	4.55

This demonstrate three key points:

- Injunctive driven strategies, regardless of whether a SEP holder is in a pool or not, may facilitate that SEP holders can extract royalties significantly above FRAND.
- SEP holders are able to extract greater royalties from injunctions when a pool externalizes members' litigation costs than if they sought the same rate independently.
- The costs for licensees can be greater when they have to license through pools that externalizes members' litigation costs.