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National Institute of Standards and Technology
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VIA ONLINE SUBMISSION

Re: *Comments of Engine Advocacy on Draft Policy Statement on Licensing Negotiations and Remedies for Standards-Essential Patents Subject to Voluntary F/RAND Commitments*

To Whom It May Concern:

Engine is a non-profit technology policy, research, and advocacy organization that bridges the gap between policymakers and startups. Engine works with government and a community of thousands of high-technology, growth-oriented startups across the nation to support the development of technology entrepreneurship through economic research, policy analysis, and advocacy on local and national issues. We appreciate the opportunity to submit these comments on the 2021 Draft Policy Statement, which marks a promising step toward restoring balance to the treatment of standards-essential patent licensing. We encourage the Department of Justice (DOJ), U.S. Patent & Trademark Office (PTO), and National Institute of Standards and Technology (NIST) to act quickly to finalize a policy statement embodying this draft's positive approach.

We applaud your attention to promoting balance in standards-essential patent (SEP) policies. Startups understand the important role standards and patents can play in the innovation ecosystem, but they experience the significant negative consequences that result from imbalances in SEP licensing. Ensuring that SEPs are subject to clear, enforceable commitments to license on fair, reasonable, and non-discriminatory (F/RAND) terms is critical for startups—it allows them to innovate and develop standard-compliant technologies and enables consumers to access their contributions.

The 2021 Draft Statement reflects a significant improvement over the 2019 Policy Statement.¹ It represents a more balanced treatment of SEP licensing negotiations and remedies that appropriately weighs the interests of patent owners, implementers, and end-users of technology. The 2019 Statement erroneously minimized the potential anticompetitive effects of SEP lock-in and, to the detriment of startups, small businesses, and consumers, tipped the balance of power in F/RAND licensing negotiations further in favor of large SEP holders.² The 2021 Draft Statement corrects these wrongs and represents a return to a sound, bipartisan approach to SEP policy.³

I. Startups are important stakeholders in SEP policy.

Startups play a vital role in the American economy and in the innovation ecosystem. They are well-positioned to take risks, inject new ideas into the market, and accelerate innovation. Startups are an important source of American job creation and bring new, socially beneficial products and services to market across a wide range of industries. The economic importance of startups has been noted by agencies, lawmakers, and academics alike.⁴

In a pervasively interoperative world, it is critical that startups be able to connect their innovations to existing products, platforms, and services.⁵ Without assurances that their products will be compatible with existing infrastructure, startups may not be able to innovate in the market at all—as they frequently cannot afford to build competing infrastructure from the ground up.⁶ Voluntary consensus standards play an important role in facilitating this interoperability. Standards enable

¹ U.S. Dep't of Just., U.S. Pat. & Trademark Off. & Nat'l Inst. of Standards & Tech., *Draft Policy Statement on Licensing Negotiations and Remedies for Standards-Essential Patents Subject to Voluntary F/RAND Commitments* (2021), <https://www.justice.gov/opa/press-release/file/1453826/download>; U.S. Dep't of Just., U.S. Pat. & Trademark Off. & Nat'l Inst. of Standards & Tech., *Policy Statement on Remedies for Standards-Essential Patents Subject to Voluntary F/RAND Commitments* (2019), <https://www.justice.gov/atr/page/file/1228016/download>.

² See Jeffrey Wilder, Econs. Dir., Dep't of Just. Antitrust Div., Remarks at the IAM and GCR Connect SEP Summit (Sept. 29, 2021), <https://www.justice.gov/opa/speech/antitrust-division-economics-director-enforcement-jeffrey-wilder-iam-and-gcr-connect-sep> (“The 2019 statement has been criticized as favoring patent holders and promoting the use of injunctions or ITC exclusion orders to remedy SEP infringement.”).

³ See Press Release, Terrell McSweeney, Comm'r, Fed. Trade Comm'n, Holding the Line on Patent Holdup: Why Antitrust Enforcement Matters 6 n.22 (Mar. 21, 2018), https://www.ftc.gov/system/files/documents/public_statements/1350033/mcsweeney_-_the_reality_of_patent_hold-up_3-21-18.pdf. (“The significance of holdup and the fact that antitrust has a meaningful role to play have long been subjects of agreement among enforcement-minded antitrust officials from both Republican and Democratic administrations.”).

⁴ See, e.g., Rebecca Kelly Slaughter, Comm'r, Fed. Trade Comm'n, Remarks at the ANSI World Standards Week: Intellectual Property Rights Policy Advisory Group Meeting (Oct. 29, 2021) (calling startups and small business “the ‘little engines that could’ of our economy”); Press Release, Senator Ron Wyden, Wyden Issues Warning About SESTA (Nov. 8, 2017), <https://www.wyden.senate.gov/news/press-releases/wyden-issues-warning-about-sesta> (“Most innovation in the digital economy comes from the startups and small firms.”); Ryan Decker et al., *The Role of Entrepreneurship in US Job Creation and Economic Dynamism*, J. ECON. PERSPECTIVES, Summer 2014, at 3, 3 (finding startups account for 20% of total U.S. job creation).

⁵ See, e.g., Joseph Gratz & Mark A. Lemley, *Platforms and Interoperability in Oracle v. Google*, 31 HARV. J.L. & TECH. 603, 612-13 (2018) (“Startups will not invest in new products—for mobile phones or video games or the Internet of Things—without confidence that their products will work on the dominant platforms.”).

⁶ Cf. QUANTIFYING RISKS TO INTEROPERABILITY IN THE SOFTWARE INDUSTRY, DEVELOPERS ALLIANCE & NDP ANALYTICS 12 (Dec. 2017), <https://static1.squarespace.com/static/53864718e4b07a1635424cdd/t/5a2854e88165f518f5cfc61e/1512592620371/Quantifying+Risks+to+Interoperability+in+the+Software+Industry.pdf> (“[T]he consequences [of restricting interoperability] for smaller businesses is . . . dire, as the potential market share for their product may be too small to consider starting in the first place.”).

widespread adoption of products and lower unwarranted research and development barriers for follow-on innovation.⁷ Further, the voluntary nature of standards setting prevents the costs and delays of a standards war.⁸ As the 2021 Draft Statement correctly notes, voluntary consensus standards “fuel the creation and utilization of new and innovative technologies that benefit consumers.”⁹ But the lock-in effects of standardization means that setting a balanced SEP policy—one that promotes the interests of SEP holders, implementers, downstream innovators, and consumers—is critical.

SEP policy impacts startups’ ability to innovate and compete in a myriad of ways. Startups can be upstream innovators, contributing to technologies that become part of a standard. Startups frequently act as SEP implementers, who practice SEPs and must negotiate licenses with the SEP owners to ensure their technology is standard-compliant. Startups also act as downstream innovators, whose products build upon—but may not directly implement—the standardized technology.

As implementers, startups are directly affected as parties to SEP licensing negotiations. When SEP holders have too much bargaining power, implementers are forced to pay inflated licensing fees or be excluded from standard-compliance altogether. And the breakdown of licensing negotiations for *other* SEP implementers can indirectly affect startups by reducing the availability or increasing the cost of interoperable products. An imbalanced SEP policy can drive up prices for consumers, delay the development of products, or curtail their development entirely. As standard-compliant products become inaccessible or unaffordable to the end-user, the market for follow-on innovation evaporates and downstream startups also suffer.

While startups contribute significantly to innovation, they typically do not hold large numbers of patents and SEPs. By contrast, larger companies have the resources and influence to amass vast portfolios of patents, including SEPs. For example, a 2020 report showed that six companies (only one of which was domestically-owned) hold over 12,300 SEP families relevant to 5G, which is about 65% of the total declared 5G SEP families.¹⁰ Those six companies each held between 1,125 to 3,007 patent families declared essential to 5G. Startups simply cannot afford to amass portfolios containing that many patents, let alone that many SEP families.¹¹ Thus, an imbalanced policy that overvalues SEPs systematically favors large, wealthy (often foreign) companies to the detriment of domestic startups and small businesses.

⁷ U.S. DEP’T OF JUST. & FED. TRADE COMM’N, ANTI-TRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS: PROMOTING INNOVATION AND COMPETITION 33-34 (2007), www.usdoj.gov/atr/public/hearings/ip/222655.pdf.

⁸ *Id.* at 34.

⁹ U.S. DEP’T OF JUST. et al., *Draft Policy Statement* (2021), *supra* note 1, at 3.

¹⁰ AMPLIFIED & GREYB, UPDATED FINDINGS ON ESSENTIALITY OF 5G DECLARED STANDARD ESSENTIAL PATENTS 3 (2020), https://info.greyb.com/hubfs/Downloadable_Reports/5G%20Report%20-%20Updated%20Findings.pdf.

¹¹ *Cf.* ENGINE, THE STATE OF THE STARTUP ECOSYSTEM 6 (2021), <https://www.engine.is/news/engine-releases-report-on-the-health-of-the-startup-ecosystem>. The average seed-stage startup raises \$1.2 million, an amount expected to cover its expenses for 22 months. And most startups do not even have that much money. *Id.* By comparison, just the application and issuance fees for 1,000 U.S. patents would be over \$1.5 million. *USPTO Fee Schedule*, U.S. PAT. & TRADEMARK OFF., <https://www.uspto.gov/learning-and-resources/fees-and-payment/uspto-fee-schedule> (last updated Jan. 1, 2022).

II. The 2021 Draft Statement appropriately balances negotiating power in F/RAND licensing, and reflects an approach that would promote innovation and positively impact startups.

Unlike the 2019 Statement, the 2021 Draft Statement provides a balanced approach to SEP licensing that appropriately recognizes the dangers of holdup and thus the importance of enforceable F/RAND commitments. Its treatment of SEPs recognizes the distortionary market effects that standards can cause and provides appropriate counterbalances. Ensuring fair SEP licensing procedures is particularly important to startups, who frequently lack the resources to challenge abuses in the licensing and assertion process.

A. The DOJ, PTO, and NIST correctly focus on the holdup problem.

As discussed above, standards are important drivers of innovation. But standardization also creates a lock-in effect that can inappropriately inflate the value of patents deemed “essential” to a given standard. As the 2021 Draft Statement correctly notes:

Opportunistic conduct by SEP holders to obtain, through the threat of exclusion, higher compensation for SEPs than they would have been able to negotiate prior to standardization, can deter investment in and delay introduction of standardized products, raise prices, and ultimately harm consumers and small businesses.¹²

By virtue of their inclusion in a standard, SEPs give their holders additional market power (sometimes far too much), which puts them in a position to demand supra-competitive licensing fees.¹³ This is often referred to as the “holdup” problem.¹⁴ Holdup is a concrete and substantial problem, especially for startups implementing standards and those that are downstream innovators.

First, SEPs can confer unwarranted market power—as purportedly “essential” patents, everyone who wants to engage with the standard will be forced to rely on those patents, even though SEP status is independent of the patent’s value-add to innovation. SEP status “is not entirely indicative of the added usefulness of an innovation over the prior art.”¹⁵ At the standards-setting stage, SEPs are not necessarily the best or only option. In most instances, a standards-developing organization (SDO) “can choose between alternatives with comparable performance.”¹⁶ As a result, SEPs often garner a significant portion of their value solely from their status as “essential” for compliance with a given standard, and not from the technological advancement or improvement the patented invention provides over the next-best alternative.

Holdup can cause overvaluation of even the most relevant, critical SEPs. But empirical work has found that SEPs are often non-essential, low-quality, or not infringed by standard-compliant

¹² U.S. Dep’t of Just. et al., *Draft Policy Statement* (2021), *supra* note 1, at 4.

¹³ See A. Douglas Melamed & Carl Shapiro, *How Antitrust Law Can Make FRAND Commitments More Effective*, 127 *YALE L.J.* 2110, 2113-15 (2018) (describing the dangers of ex post opportunism by SEP holders).

¹⁴ See, e.g., Press Release, Terrell McSweeney, *supra* note 3, at 2.

¹⁵ *Ericsson, Inc. v. D-Link Systems, Inc.*, 773 F.3d 1201, 1233 (Fed. Cir. 2014).

¹⁶ SAVE OUR STANDARDS, STANDARDS, LICENSING, AND INNOVATION: A RESPONSE TO DOJ AAG’S COMMENTS ON ANTITRUST LAW AND STANDARD-SETTING 10 (2018), <https://www.saveourstandards.com/wp-content/uploads/2021/03/Multi-Assn-DOJ-White-Paper-053018.pdf> (quoting Expert Report of Friedhelm Hillebrand, *Nokia Corp. v. Qualcomm Inc.*, No. 2330-VCS (Del. Ch. May 22, 2008)).

products—making the problem worse.¹⁷ Recent studies have shown less than half of patents declared essential to 2G, 3G, and 4G wireless telecommunications standards were actually essential to implementation.¹⁸ SEPs are consistently overdisclosed, or improperly declared essential, by participants in the standards-setting process, which is reflected in how frequently they are found to be non-infringed when they are adjudicated in court.¹⁹ This overdisclosure leads to unwitting licensees being required to pay for many “essential” licenses that are nothing of the sort. Non-essential SEPs exacerbate the holdup problem. When these patents are added to the mix, implementers and downstream innovators are at risk of being forced to pay supra-competitive licensing fees not just for true SEPs, but for non-essential patents as well.

Second, part of the reason holdup is a critical concern, warranting the attention it receives in the 2021 Draft Statement, turns on the impact it has on downstream innovation. As noted above, SEPs and SEP policy can dictate whether standard-compliant products (like connected devices) are accessible and affordable, which in turn dictates the market for follow-on innovation to create those products and the technology that runs on them.

Downstream innovators should not have to divest some of the value of their innovation by paying excessive SEP licensing fees. Without an appropriate counterbalance, SEP holders’ market power implicitly overvalues upstream innovators and undervalues downstream innovators, who are often startups and small businesses.²⁰ But innovation occurs at all levels of the product chain, and downstream innovation is no less valuable than upstream innovation. SEP holders (including startups that own SEPs) certainly deserve fair returns on the innovation they contribute to the standards, but downstream implementers should not be denied the benefits of their own innovation by paying artificially inflated SEP licensing royalties.²¹

Third, ignoring the problems of patent holdup would be misplaced.²² The DOJ, PTO, and NIST should resist calls to shift more leverage into the hands of SEP holders and reject specious arguments that the 2021 Draft Statement is antithetical to innovation and competition. SEP implementers and downstream innovators, including scores of startups and small businesses, develop their technologies with the expectation that SEP holders’ will deliver on their F/RAND commitments and enable use of the standard.²³ SEP holders have no analogous reliance interest

¹⁷ See *Ericsson*, 773 F.3d at 1233; Mark A. Lemley & Timothy Simcoe, *How Essential are Standard-Essential Patents?*, 104 CORNELL L. REV. 607, 628 (2019) (finding overdisclosure of SEPs is “rampant”).

¹⁸ Jason R. Bartlett & Jorge L. Contreras, *Rationalizing FRAND Royalties: Can Interpleader Save the Internet of Things?*, 36 REV. LITIG. 285, 300-01 (2017).

¹⁹ Lemley & Simcoe, *supra* note 17, at 628–632 (finding that “[w]hen SEPs are asserted in court, most of them turn out not to be infringed”).

²⁰ *Id.* at 23-25.

²¹ See Melamed & Shapiro, *supra* note 13, at 2131 (“[S]upracompetitive royalties can enrich industry participants as a group at the expense of final consumers.”).

²² Compare U.S. Dep’t of Just., U.S. Pat. & Trademark Off. & Nat’l Inst. of Standards & Tech., *Policy Statement on Remedies for Standards-Essential Patents Subject to Voluntary F/RAND Commitments* 4 (2013), <https://www.justice.gov/atr/page/file/1118381/download> (recognizing the risk that SEP owners “may gain market power and potentially take advantage of it by engaging in patent hold-up”), and U.S. Dep’t of Just. et al., *Draft Policy Statement* (2021), *supra* note 1, at 4 (warning of “[o]pportunistic conduct by SEP holders to obtain . . . higher compensation for SEPs than they would have been able to negotiate prior to standardization”), with U.S. Dep’t of Just. et al., *Draft Policy Statement* (2019), *supra* note 1 (removing all discussion on hold-up and opportunistic conduct by SEP holders).

²³ Melamed & Shapiro, *supra* note 13, at 2119.

during their R&D process, as future inclusion in a standard is not preordained for any innovation.²⁴ The 2021 Draft Statement is thus correct to focus on addressing holdup risks, rather than speculative concerns about chilling upstream innovation. The true risk is SEP holders using their market power to stifle downstream innovation.

Likewise, holdup affects all stakeholders—innovators, implementers, consumers, and other SEP holders—and its harms cannot be fully remedied by the courts.²⁵ Implementers cannot be fully compensated for delays in bringing products to market caused by SEP holders’ abusive licensing practices. A startup cannot recoup the opportunities lost if forced to waste time and money dealing with prolonged or inflated SEP negotiations and litigation.²⁶ Other SEP holders (which includes some startups) cannot be compensated for lost licensing revenues caused by the exclusion or delayed launch of an implementer’s product or an innovator’s follow-on technology. And consumers cannot be compensated for the market-wide effects of holdup, which take the form of higher prices and lower quality products.

B. Clear, enforceable F/RAND commitments are an important counterbalance to the holdup problem.

To address holdup and promote the adoption of a standard, SDOs often require SEP holders to license their patents on F/RAND terms. Those F/RAND commitments limit patent holdup by “confin[ing] the patentee’s royalty demand to the value conferred by the patent itself as distinct from the additional value—the holdup value—conferred by the patent’s being designated as standard-essential.”²⁷ F/RAND requirements also facilitate the widespread adoption of a standard and lower barriers to follow-on innovation by reducing uncertainty in licensing.

In short, when a patent is included as part of a standard, the patent holder is making a bargain.²⁸ In exchange for access to a large downstream licensing market, SEP holders agree to make their technologies available to all at rates that represent the true value of their innovative contribution. If implementers are not given the tools to ensure F/RAND commitments are upheld, and if SEP holders are given tools to more easily evade those F/RAND commitments, then downstream innovators and the public will not receive their end of this bargain.

C. Holdup and failures to comply with F/RAND obligations are of particular concern in high-technology industries, especially for startups.

The complex patent landscape in many high-technology industries makes holdup especially concerning. High-tech industries are particularly dependent on standards,²⁹ and compliance with a

²⁴ *Id.*

²⁵ See SAVE OUR STANDARDS, *supra* note 16, at 20.

²⁶ See Robin Feldman, *Patent Demands & Startup Companies: The View from the Venture Capital Community*, 16 YALE J.L. & TECH. 236, 272-76 (2014) (“When companies spend money protecting their intellectual property position, they are not expanding; and when companies spend time thinking about patent demands, they are not inventing.”).

²⁷ *Apple, Inc. v. Motorola, Inc.*, 869 F. Supp. 2d 901, 913 (N.D. Ill. 2012).

²⁸ See Melamed & Shapiro, *supra* note 13, at 2118.

²⁹ See Lemley & Simcoe, *supra* note 17, at 609 (“The computer, Internet, and telecommunications industries in particular depend on standards to ensure that different companies’ products work well together.”).

standard requires access to all SEPs relevant to that standard.³⁰ Many standards encompass a huge number of SEPs. A 2013 study found over 250 SEPs declared for a modern laptop, 75% of which were subject to F/RAND commitments.³¹ And it is estimated that tens of thousands of patent families have been declared as essential to 5G.³² This complexity exacerbates the holdup risk, allowing any individual SEP holder to act as gatekeeper to the standard. Any SEP holder, even those who hold a small component of the essential technology, could use this undue leverage to extract supra-competitive licensing rates.

Startups in these high-technology industries are disproportionately affected because they are frequently resource-constrained and lack access to technical legal advice to counter abusive SEP practices like holdup. It is often difficult for startups to assess a licensing offer and determine if it is on F/RAND terms. Given the sheer number of SEPs that may be required for a single standard, startups often lack the in-house expertise to know what royalty would be fair, or even which patents their technology is using in the first place.³³ Even if a startup can identify a licensing offer as potentially unfair, it often does not have the resources to challenge the F/RAND terms via litigation. So, startups may be forced to cave to inflated royalties to avoid becoming entangled in potentially costly legal disputes for which they do not have the resources.

III. The 2021 Draft Statement correctly recognizes that threatened injunctive relief in the context of F/RAND commitments harms innovation.

The 2021 Draft Statement advances an approach to remedies that promotes innovation and is consistent with both the principles that underlie F/RAND commitments and caselaw. While the 2021 and 2019 statements both cite and discuss *eBay*,³⁴ only the 2021 Draft Statement correctly recognizes that a reasonable royalty is the appropriate remedy for infringement of SEPs subject to F/RAND commitments, absent extraordinary circumstances.³⁵ As compared to the 2019 Statement—which incorrectly suggested that injunctions are “equally available” in these situations³⁶—the draft policy would promote innovation, particularly since the threat of injunctive relief disproportionately impacts startups and other small companies.

³⁰ See Carl Shapiro & Mark A. Lemley, *The Role of Antitrust in Preventing Patent Holdup*, 168 U. PA. L. REV. 2019, 2044 (2020).

³¹ Brad Biddle et al., *How Many Standards In a Laptop? (And Other Empirical Questions)* 1 (Sept. 10, 2010) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1619440; Shapiro & Lemley, *supra* note 30, at 2043 n.76.

³² See AMPLIFIED & GREYB, *supra* note 10, at 3.

³³ In the words of one startup: “I completely lack transparency as to which patents the technology of a Qualcomm modem in my device actually uses.” Joachim Henkel, *How to License SEPs to Promote Innovation and Entrepreneurship in the IoT* 4 (Mar. 22, 2021) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3808987. Another startup in the automotive industry noted that, “we build a car from many thousands of components, and of course we cannot have the knowledge about each technology in-house, this would be insane.” *Id.* at 10.

³⁴ *eBay Inc. v. MercExchange, LLC*, 547 U.S. 388, 392-93 (holding successful plaintiffs in patent infringement cases are not automatically entitled to injunctions and instead applying an equitable framework).

³⁵ U.S. Dep’t of Just. et al., *Draft Policy Statement* (2021), *supra* note 1, at 7-10.

³⁶ U.S. Dep’t of Just. et al., *Policy Statement* (2019), *supra* note 1, at 5.

A. Monetary remedies are the appropriate relief for the infringement of SEPs that are subject to a F/RAND commitment, absent extraordinary circumstances.

Monetary damages (and not an injunction) are most often the appropriate remedy for infringement of a valid SEP that the holder has willingly agreed to license on F/RAND terms. In undertaking a F/RAND obligation, a patent holder is voluntarily agreeing to non-discriminatorily license its patent in exchange for a reasonable royalty rate—a commitment that “strongly suggest[s] that money damages are adequate to fully compensate [the patent holder] for any infringement.”³⁷ Injunctions run contrary to that obligation—they are a mechanism that enforces a patentee’s desire for an infringer not to practice the patent. The imposition of injunctive relief would effectively allow the SEP holder to discriminate against the infringer by denying them a license at a F/RAND rate.³⁸ In the vast majority of circumstances, therefore, the only appropriate remedy for infringement of an SEP is for a court to honor the patent holder’s F/RAND obligations and impose a reasonable royalty for the infringing act.

In the context of SEPs, injunctions are a particularly disproportionate remedy as the threatened relief would enjoin products that are predominately non-infringing.³⁹ As discussed previously, a given SEP typically covers only a small portion of a given standard. That standard, in turn, only contributes a fraction of the total value of a standard-compliant product. The availability of injunctive relief, however, grants the SEP holder the ability to threaten to block the production and sale of the *entire* product. In contrast, reasonable royalty rates are (or should be) determined in relation to the significance of the patented invention to the product, and such damages are thus proportional to the value imparted by the patent.⁴⁰

Consistent with *eBay*’s equitable framework, the 2021 Draft Statement acknowledges that while remedies other than reasonable royalties may be available to SEP holders, such remedies should only be used in the rare circumstances when they are truly merited.⁴¹ By limiting the availability of injunctive relief, the approach of both *eBay* and the 2021 Draft Statement strikes a careful balance that will promote innovation while still providing SEP holders with an appropriate recourse.

B. Injunctions harm innovation by giving SEP holders undue leverage in licensing and settlement negotiations.

Even the threat of an injunction gives SEP holders unwarranted and outsized leverage in license negotiations, allowing them to artificially drive-up royalty rates.⁴² The remedies available for patent infringement “set the framework” for licensing and settlement negotiations, and ultimately

³⁷ *Apple, Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1332 (Fed. Cir. 2014).

³⁸ *Microsoft Corp. v. Motorola, Inc.*, 696 F.3d 872, 885 (9th Cir. 2012) (finding that “injunctive relief against infringement is arguably a remedy inconsistent with the [F/RAND] licensing commitment”).

³⁹ Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991, 2008 (2007).

⁴⁰ *See Georgia Pacific v. United States Plywood*, 318 F. Supp. 1116, 1121-22 (S.D.N.Y. 1970) (providing fifteen different factors that should be considered when determining a reasonable royalty rate, including, for instance, the “portion of the realizable profit that should be credited to the invention”).

⁴¹ *See* U.S. Dep’t of Just. et al., *Draft Policy Statement* (2021), *supra* note 1, at 9–10.

⁴² Lemley & Shapiro, *supra* note 39, at 2008 (“[T]his threat can easily enable a patent holder to negotiate a settlement for an amount of money significantly exceeding the amount that the patent holder could expect to earn in damages based on reasonable royalties.”).

determine the amount of leverage held by the patentee.⁴³ The availability of injunctive relief encourages patent holdup because “an injunction, and the potentially serious sanctions arising from its violation, can be employed as a bargaining tool to charge exorbitant fees to companies that seek to buy licenses to practice the patent.”⁴⁴ The threat of injunctive relief allows the patent holder to extract a higher royalty rate, or settlement, as the price the licensee must pay to avoid a crippling injunction.⁴⁵

The threat of injunctive relief is amplified in the context of SEPs. If granted, an injunction prevents the sale of a product,⁴⁶ and that product can only be sold after it has been redesigned to be non-infringing. Redesigning around an SEP, however, would mean the product is no longer standard-compliant (assuming the SEP is actually essential)—and cannot be brought into compliance. This effect is multiplied for downstream implementers and innovators in high-tech industries, who must negotiate patent licenses with, and may receive injunction threats from, many different SEP holders when they develop standard-compliant products.⁴⁷ The problem of increased holdup resulting from threatened injunctive relief is further exacerbated because, as discussed above,⁴⁸ SEPs are often non-essential or invalid.⁴⁹

The threat of injunctive relief should not be a tool that allows SEP holders to extract supra-competitive royalty rates from potential licensees. The 2021 Draft Statement properly acknowledges that the availability of injunctive relief for SEP infringement would hamper innovation by enabling SEP holders to engage in opportunistic conduct that would make the “implementation of standards more costly and [deter] investment in future standards development.”⁵⁰

C. The threat of injunctive relief disproportionately impacts startups.

Injunctions can pose an unjustified, yet existential, threat to startups. Startups are resource-constrained, which makes them more vulnerable in the face of patent assertion in general. The ability to threaten an injunction can enable problematic assertion due to the increased leverage it grants patent holders. Litigation is an expensive and imbalanced proposition—suits can easily cost \$1–5M in legal fees alone, while the defendant bears more substantive risks than the entity asserting the patent.⁵¹ Startups have limited human capital; fighting a patent suit detracts from enterprises

⁴³ Suzanne Michel, *Bargaining for RAND Royalties in the Shadow of Patent Remedies Law*, 77 ANTITRUST L.J. 889, 889-90 (2011).

⁴⁴ eBay Inc. v. MercExchange, LLC, 547 U.S. 388, 396 (Kennedy, J., concurring).

⁴⁵ John M. Golden, *Principles for Patent Remedies*, 88 TEX. L. REV. 505, 514 (2010).

⁴⁶ See Mark A. Lemley, *Ten Things To Do About Patent Holdup of Standards (And One Not To)*, 48 B.C. L. REV. 149, 153 (2007).

⁴⁷ Lemley & Shapiro, *supra* note 39, at 2011.

⁴⁸ See *supra* Part II.A.

⁴⁹ See RPX CORP., STANDARD ESSENTIAL PATENTS: HOW DO THEY FARE? 9 (2014), <https://www.rpxcorp.com/wp-content/uploads/2014/01/Standard-Essential-Patents-How-Do-They-Fare.pdf> (finding that a significant majority of SEPs alleged in district court proceedings were found to be noninfringed or invalid).

⁵⁰ See U.S. Dep’t of Just. et al., *Draft Policy Statement* (2021), *supra* note 1, at 10.

⁵¹ ENGINE, STARTUPS & THE U.S. PATENT SYSTEM: PRIORITIZING QUALITY AND BALANCE TO PROMOTE INNOVATION 9 (2021), <https://www.engine.is/news/category/prioritizing-quality-and-balance-to-promote-innovation>; BRIAN T. YEH, CONG. RSCH. SERV., R42668, AN OVERVIEW OF THE “PATENT TROLLS” DEBATE 12 (2013) (noting PAEs occupy “highly advantageous bargaining positions” because of high litigation costs, potentially debilitating liability for defendants, and lack of disincentives for plaintiffs to litigate).

such as product development, marketing, hiring, and obtaining financing.⁵² The uncertainty arising from patent litigation also deters investment.⁵³

Startups are more likely to offer a much smaller product line than larger companies, and young startups may have only a single product. That means an injunction is a threat that could put the company out of business entirely. As such, the threat of injunctive relief provides an unscrupulous SEP holder with massive leverage in licensing negotiations and infringement suits, even when the startup is willing to pay a F/RAND licensing fee.⁵⁴ To avoid the risk of litigation—especially litigation that could result in an injunction—startups may accept coercive licensing offers or settle frivolous claims.

Moreover, SEPs are primarily asserted by non-practicing entities (NPEs), which are also known for disproportionately targeting (and harming) startups and other small companies.⁵⁵ Indeed, one study found NPEs brought more than 70% of SEP assertions, which is consistent with NPE suits being most prevalent in the industries most dependent on standards, i.e., high-tech.⁵⁶ Yet the approach to injunctive relief affirmed by *eBay* appropriately reduced the scope of patent holdup by NPEs.⁵⁷ This further cautions against policies that open doors wider to injunctive relief in SEP assertion; such policies would put startups at risk in markets where the SEP holder itself is not fulfilling consumers' needs for standards-implementing technology.

The 2021 Draft Statement's remedies framework for SEPs subject to F/RAND commitments—which clarifies that injunctions should be rarely issued—is consistent with *eBay* and would reduce holdup and encourage innovation, particularly among startups and other small companies who are most vulnerable to threats of an injunction.

IV. Startups can, and should, contribute valuable perspectives on all aspects of SEP adoption and implementation.

Startups are important stakeholders in SEP policy and should have a voice throughout the standards process—from standards creation and adoption to discussions on appropriate remedies. While the DOJ, PTO, and NIST do not directly seek comment on membership and participation in SDOs, we

⁵² E.g., Colleen Chien, *Startups and Patent Trolls*, 17 STAN. TECH. L. REV. 461, 465 (2014) (finding that 40% of small companies that received a PAE demand report a “significant operational impact” such as delayed hiring, a shut-down of a business line or the entire business, and lost valuation).

⁵³ See *id.*; Feldman, *supra* note 26, at 280 (finding that 100% of investors surveyed could be deterred from investing in a startup if there was a patent demand); Stephen Kiebzak, Greg Rafert & Catherine E. Tucker, *The Effect of Patent Litigation and Patent Assertion Entities on Entrepreneurial Activity*, 45 RSCH. POL'Y 218, 218-19 (2016) (finding high levels of patent litigation within a field correlated to reduced VC investment, especially in the technology and software sectors).

⁵⁴ Cf. Tim Molino, Opinion, *If Your Startup Really Is Disruptive, Expect to be Sued By a Patent Troll*, ENTREPRENEUR (Aug. 4, 2017), <https://www.entrepreneur.com/article/296625> (“The threat of an injunction and the high costs of litigation often forced defendants to settle for large amounts of money, even if they believed the patent was invalid or worth very little.”).

⁵⁵ James Bessen & Michael J. Meurer, *The Direct Costs from NPE Disputes*, 99 CORNELL L. REV. 387, 391 (2014) (“Firms making less than \$100 million in revenue account for 82% of the defendants and 50% of the defenses [in NPE suits].”).

⁵⁶ Lemley & Simcoe, *supra* note 17, at 620–21.

⁵⁷ Shapiro & Lemley, *supra* note 30, at 2046; Josh Landau, *Much Ado About Injunctions*, PAT. PROGRESS (Aug. 1, 2019), <https://www.patentprogress.org/2019/08/01/much-ado-about-injunctions/> (finding injunction grant rates dropped for NPEs after *eBay*, while the decision has had little to no impact on grant rates for operating companies).

encourage the agencies to embrace policies that facilitate the broad inclusion of startups in these organizations.

Policies and approaches that maximize startup participation in the standards-setting process benefit startups and SDOs, and are socially valuable for consumers and the public. When startups have a seat at the table, they can contribute their own technologies or, given their independence and unique perspectives, advocate for the adoption of technically superior standards.⁵⁸ SDO participation also has positive knowledge spillover effects for startups.⁵⁹ Attendance at SDO meetings allows startups to gather information on markets, technologies, and competitors while advertising their own technologies.⁶⁰ The public also benefits from this participation; knowledge spillover facilitates the development of socially beneficial innovation and startups' influence over standards adoption promotes fairer licensing agreements. Recent academic work has suggested that participation of downstream firms, particularly smaller implementers, in an SDO can act as “a powerful commitment device for innovators to lower their royalty fees to a socially superior level.”⁶¹

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Engine appreciates this opportunity to comment on the 2021 Draft Statement. We look forward to continued engagement with the DOJ, PTO, and NIST on how SEP policy affects the startup community.

We encourage you to promptly finalize a policy statement that embodies the balance and principles found in the 2021 Draft Statement. This would improve the functioning of markets that rely on F/RAND commitments, and it could help curb abusive practices. The draft correctly recognizes the market effects caused by standards and extends to startups and small businesses an appropriate counterbalance to large SEP holders' market power. It offers a clear framework for licensing negotiations and provides a well-reasoned position on injunctive relief. Finalization of the 2021 Draft Statement would help startups compete in an increasingly interoperable world—promoting innovation, creating jobs, and benefiting businesses and consumers alike.

⁵⁸ Clemens Fiedler et al., *Membership, Governance, and Lobbying in Standard-Setting Organizations* 5 (Tilburg Univ. L. & Econ. Ctr. Working Paper No. 2018-042), https://autopapers.ssrn.com/sol3/papers.cfm?abstract_id=3303724 (“Only if the participation of industry partners is broad and includes the firms with the best technology, there is any hope that the standard is as good as technically (and economically) possible.”).

⁵⁹ *Id.* at 2-3.

⁶⁰ David M. Waguespack & Lee Fleming, *Scanning the Commons? Evidence on the Benefits to Startups Participating in Open Standards Development*, 55 MGMT. SCI. 210, 221 (2009).

⁶¹ Fiedler et al., *supra* note 58, at 26-27.

Respectfully submitted on behalf of Engine,

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