Securing Intellectual Property for Innovation and National Security

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The United States is engaged in a global competition for innovation, with critical implications for the nation’s continued technological leadership, competitiveness, and security. To win, the United States will need to leverage its advantages at home, including its robust intellectual property (IP) rights system and the innovative zeal of its entrepreneurs. It should also look abroad—setting the pace for scientific cooperation with allies and strategic partners, as well as developing shared international technical standards through the contributions of experts from around the globe. Most pressingly, the United States should not adopt policies that weaken protection of U.S.-owned patents—which would both disincentivize innovation in the United States and support Chinese efforts to dominate critical standards and other advanced technologies.

Yet a recent proposal of the Antitrust Division of the U.S. Department of Justice (DOJ) does just that. Launched as a consultation, its Draft Policy Statement on Licensing Negotiations and Remedies for Standards-Essential Patents Subject to F/RAND Commitments is promoted as an effort to encourage good-faith licensing negotiations and to address the scope of remedies available to patent owners who have agreed to license their essential technologies on fair, reasonable, and non-discriminatory (F/RAND) terms. While this draft policy seems like an innocuous administrative change, it has the potential to do significant damage to the United States’ innovation engine and, by extension, to its national security.

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In an unprecedented show of solidarity over what appears to be a technical issue of DOJ policy on standards and patents, a distinguished bipartisan group of former defense, national security, patent, and standards leaders has come out in opposition to this proposed policy change. They point out that it would diminish U.S. leadership by weakening protections for standard-essential patents (SEPs), arguing further that the proposal would instead aid China in its race to dominate advanced technologies vital to U.S. national security, such as artificial intelligence (AI), fifth-generation (5G) networks, and quantum computing.

**Innovation and National Security**

The U.S. innovation system—a network of capabilities, rules, and policies supporting research, development, and commercialization of new technologies—is a national strategic asset. Since the founding of the republic, the innovation economy has served as the basis for U.S. competitive and strategic advantage, a finding affirmed in the October 2021 White House National Strategic Overview for Research and Development Infrastructure.

This innovation system is anchored by a robust framework of rules governing standards and IP protection. Standards set the pace for innovation, providing shared platforms for industry participants to work together to bring new technological solutions to the marketplace. Standards also promote interoperability and safety, giving consumers more and better choices. Moreover, secure property rights encourage smaller firms and individual inventors to share their new ideas and collaborate with others without the risk of theft. For this reason, the community of small inventors, universities, startups, and entrepreneurs has repeatedly spoken about the importance of secure property rights in providing them a path to market entry.

Importantly, patents are not a “monopoly” in the market sense—they are a temporary period of exclusivity for a particular solution granted in exchange for disclosing that solution and eventually giving it up as a public good. The patent system for inventions creates, among other things, the rents that spur risk-taking and encourage entrepreneurship. The 2021 Draft Policy Statement would weaken this system, hurting U.S. risk-taking, innovation, and (subsequently) leadership in global technology standards, and is therefore concerning.

**Standard-Essential Patents**

The harm from the 2021 Draft Policy Statement comes from its proposed change to the terms of licensing negotiations and remedies for SEPs. An SEP is a patent that can be properly mapped onto a consensus industry standard, such that a product that conforms to that standard would infringe the patent unless a license has been granted.

SEPs and their licensing are common in the mobile-wireless and telecommunications industry, a sector that is highly standardized due mainly to the need for interoperability between mobile devices. SEPs are also increasingly important in other internet-of-things (IoT) systems, as well as connected cars, autonomous vehicles, artificial intelligence, and many other emerging and critical technologies.

Realizing the value of an SEP necessitates cooperation between the owner and implementer of the patent. However, owners and implementers can try to take advantage of each other in some situations. Epstein and Noroozi distinguish between “patent holdup” and “patent holdout” in these terms:

In general, by “patent holdup” we mean the theoretical claim that innovators of standard–essential patents attempt to extract excessively large royalties from implementers after those implementers have committed to a particular technological standard that requires the use of the patent(s) in question—that is, a standard that renders the patent(s) “essential.” . . . By “patent holdout” we mean
the converse problem—that an implementer refuses to negotiate in good faith with an innovator for a license to valid patent(s) that the implementer infringes, and instead forces the innovator to either undertake significant litigation costs and time delays to extract a licensing payment through a court order, or else to simply drop the matter because the licensing game is no longer worth the candle.

To overcome these challenges to collective action, particularly given the complexity of standards and patents that go into advanced devices, owners of SEPs often make a commitment to offer licenses on F/RAND terms.

Over the past 10 years, there has been mounting evidence of patent holdout, seen (for example) in the cases of Huawei in the United Kingdom and Germany, Haier in Germany, Wiko in the Netherlands, LG in the United States, and many more. It is therefore important that the policies determining SEP–F/RAND disputes maintain a balance between the interests and incentives of innovators and implementers. (Over the same period, there has been little if any evidence of holdup as a matter of concern.)

Policy Statements Concerning SEPs

With rapid innovation in wireless and other advanced technologies raising the commercial stakes over the past decade, federal agencies have made repeated attempts to provide guidance about the use of SEPs.

The 2013 Policy Statement on Remedies for Standards-Essential Patents Subject to Voluntary F/RAND Commitments from the DOJ and the U.S. Patent and Trademark Office (USPTO) acknowledged the pro-competitive benefits of standard setting but also noted that standard setting created certain anti-competitive risks and specifically stated that F/RAND commitments help mitigate these risks. It nevertheless expressed a concern about situations where “the owner of that patented technology may gain market power and potentially take advantage of it by engaging in patent hold-up” and called for establishing ways by which patent holders’ opportunistic conduct could be mitigated. Indeed, the 2013 statement also noted that injunctive relief may be an appropriate remedy in certain circumstances—for example, when a potential licensee constructively refuses to engage in a negotiation to determine F/RAND terms. In subsequent years, however, the 2013 statement came to be misconstrued to create a de facto prohibition against the use of injunctions for SEPs.

Accordingly, the USPTO, DOJ, and the National Institute of Standards and Technology (NIST) issued a joint statement in 2019 to clarify that a patent owner’s F/RAND commitment is a relevant factor in determining appropriate remedies but need not act as a bar to any particular remedy. This clarification called for subjecting all patents to the same laws with the same available remedies for infringement, including SEPs subject to F/RAND terms. It explained that “all remedies available under national law, including injunctive relief and adequate damages, should be available for infringement of standard-essential patents subject to a F/RAND commitment.” The 2019 statement also explicitly rejected having “a special set of legal rules that limit remedies for infringement of standard-essential patents subject to a F/RAND commitment.”

The 2021 Draft Policy Statement makes a sharp departure from the 2013 and 2019 statements under the guise of rebalancing the F/RAND rate negotiations. It outlines steps that SEP holders and potential implementers should take in negotiations and calls into question the availability of injunctive relief for SEP owners under most circumstances.

Meanwhile, courts across the globe have made much progress in clarifying legal rules and creating a stable environment for SEP licensing since 2011. For example, Huawei v. ZTE, Unwired Planet v. Huawei, Nokia v.
Daimler, and Sisvel v. Haier all confirmed that an SEP holder has the right to seek injunctive relief against an infringer of F/RAND-committed SEPs.

Assessing the 2021 Draft Policy Statement

The 2021 Draft Policy Statement is a sharp departure from this rising international consensus. It justifies itself as an attempt to balance perceived inequities in F/RAND rate negotiations. The policy purports to prevent holdup, in which SEP owners attempt to exact supra-F/RAND rates via their dominant market position and the threat of litigation, as well as holdout by implementers attempting to delay the process or avoid paying royalties. As written, however, the draft statement is not balanced, resulting in potential negative effects on the U.S. innovation system.

Indeed, devaluing SEPs would have severe consequences for innovation and for the United States and its allies more broadly. There is currently a geopolitical race for global leadership in critical technologies, and the Biden-Harris administration has recognized the importance of such technological leadership. However, this Draft Policy Statement risks undermining the ability of U.S. companies to compete with their global rivals.

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DISINCENTIVIZING PATENT OWNERSHIP

Indeed, the 2021 Draft Policy Statement puts a thumb on the scale in favor of implementers and discourages injunctive relief for owners of U.S. patents. For example, the only scenario that the 2021 Draft Policy Statement acknowledges as appropriate for injunctive relief for SEPs is when a potential licensee refuses to pay what has been determined by a court or another neutral decisionmaker to be an F/RAND royalty. It is not even clear that injunctive relief would be available to SEP owners if a potential licensee directly refuses to negotiate to establish F/RAND terms, a sharp departure even from the original 2013 statement. Far from being balanced, this is the most radical approach the agencies have adopted so far.

In contrast, the 2013 statement expressly states that a potential licensee who “refuses to engage in a negotiation to determine F/RAND terms” could be subject to injunctive relief. It then goes on to provide examples of “constructive refusal to negotiate, such as by insisting on terms clearly outside the bounds of what could reasonably be considered to be F/RAND terms in an attempt to evade the putative licensee’s obligation to fairly compensate the patent holder.” The 2021 draft is entirely silent with respect to constructive refusal to negotiate.

Curiously, the 2021 draft proffers little or no evidence of patent holdup, whereas the wireless industry is rife with examples of holdout and intentional delays by implementers (see St. Lawrence v. Vodafone, Dolby v. MAS Elektronik, Koninklijke Philips N.V. v. Asustek Computers INC., and cases listed earlier). The changes in the 2021 Draft Policy Statement would leave U.S. SEP owners at a disadvantage while favoring corporations that seek to avoid or at least delay entering into SEP licenses.

HAMPERING U.S. GLOBAL LEADERSHIP

A reliable IP system is essential for allowing U.S. companies to be able to compete on a level playing field and maintain their leadership position. In a market-based economy, the ability to monetize IP rights through licensing them successfully is an important mechanism that enables firms to invest in the risky research and development (R&D) required to lead in global standards. The current administration recognizes the
importance of U.S. leadership in this regard. The priority of “maintaining U.S. leadership in 5G standards and deployment” is reiterated in President Biden’s July 2021 Executive Order on Promoting Competition in the American Economy.

The United States is in a close global technological competition, especially with China, and therefore needs to protect a rules-based and private sector–led standards ecosystem in partnership with its allies. These allies are closely watching and will likely follow its lead—meaning that U.S. policy choices affect not just U.S. competitiveness, but also that of our partners. The United Kingdom and Germany, for example, showed strong support for the 2019 policy statement regarding SEPs, but continued international support depends on the United States leading by clear example.

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However, the proposed 2021 policy is inconsistent with the Biden-Harris administration’s goals. It focuses narrowly on an issue of administrative process without recognizing the broader implications the proposed change will have for U.S. competitiveness and international leadership. Indeed, the uncertainty created by the draft policy can potentially harm current efforts in forums such as the U.S.-EU Trade and Technology Council (TTC) and the Quadrilateral Security Dialogue (Quad) to develop a cooperative process for a common SEP approach.

UNDERMINING THE OPEN STANDARDIZATION SYSTEM

The draft also risks undermining the sustainability of the open standardization system. In the cellular space, innovators have traditionally relied on licensing to get appropriate returns on their R&D investments. Without the clear ability to achieve these returns, U.S. firms will be less willing to continue contributing their technology to global cooperative standards bodies, where hundreds of companies voluntarily participate to develop common technology solutions. This does not mean standards innovation will not occur, but it will likely occur in a very different way—and at reduced rates.

In a world without cooperative standards, technology standards could be developed by governments, led by state-driven (instead of current market-driven) innovation agendas. The development of China-led and China-only standards in various key technologies corroborate this possibility. Another possibility would be the development of de facto standards—that is, proprietary technologies that are developed by a single company and used as a common solution in the market. Several large technology platforms already present examples of such “de facto” standards, and in the absence of cooperative standards these large platforms would get even larger. Therefore, a world without the ability to create cooperative technology standards through a market-driven and industry-based consensus will likely be a riskier and less prosperous world.

In contrast to the 2021 Draft Policy Statement, China is in fact moving in the opposite direction, recognizing both the power of bolstering IP rights and standards to encourage domestic innovation and the need to support domestic firms. China has accordingly made participation in standards development a top priority for the country, and numerous statements by Chinese public officials make clear that it aspires to become a leading player in global standards development. For example, Foreign Ministry spokesperson Zhao Lijian famously said that China seeks “to provide a blueprint for formulating global standards.” The country has also shown a continuing attention to its patent holdings and patent
system, as well as a deep understanding of how important IP rights are for standards and technological leadership. Perversely, the 2021 draft proposal hampers the ability of U.S.-based firms to compete for leadership in standards-based technologies.

**ADVANTAGING CHINA**

The immediate beneficiaries of the 2021 Draft Policy Statement are firms based in China. This is because the implementers (and thus licensees) of cellular technologies are largely based in China. Technology standards are global in nature, and, as a practical matter, so are the patent portfolios associated with these technologies. Thus, the usual industry-wide practice is to engage in portfolio-wide licenses that are global in scope. Devaluing U.S. patents reduces the value of global portfolio licenses and therefore reduces the price that Chinese implementers pay for American innovation. What is more, the long-term and largest beneficiaries are also firms based in China. China has strong ambitions and a growing investment in setting and governing critical technology standards. Although U.S. companies are currently leading in several key areas, numerous reports have confirmed that China is rapidly closing the gap.

This is because China has recognized the strategic importance of standards in key technological sectors. In 2015, President Xi Jinping observed that “standards are the commanding heights, the right to speak, and the right to control. Therefore, the one who obtains the standards gains the world.” China has accordingly embarked on an expansive and well-coordinated strategy to strengthen its role in technology standards. Most recently, in 2020 it announced its China Standards 2035 Plan to set global standards for emerging technologies such as 5G, IoT, AI, and clean energy.

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China has rapidly increased its participation, representation, and influence across many well-established standards-development organizations (SDOs). For example, more and more Chinese companies have joined the 3rd Generation Partnership Project (3GPP), which is best known for its work in the development and maintenance of 3G, 4G, and 5G networks, so that approximately 20 percent of the 3GPP members are now Chinese companies. Currently, North American companies comprise about 25 percent of the membership, and European companies about 30 percent. There has been also an increase in Chinese representation in leadership positions at 3GPP. Thus, although China and its companies cannot yet claim a leadership role, they are clearly strengthening their position.

To at least maintain the status quo and allow the U.S.-supported rules-based system to continue as it has, this contest will need to be determined by more than just which nation has a more efficient government bureaucracy. Success here will be defined by the maintenance of a system that allows for economic stability and an assurance of upholding IP rights. In the absence of clear enforcement and the potential for injunctive relief when SEPs are infringed, and without the ability to bring both licensor and licensee to the negotiating table, American innovators will be hamstrung, unable to gain a return on investment from their research and standards contributions.

**Renewing American Innovation**

Market-driven U.S. firms rely on return on investment from their long-term and risky R&D by licensing their portfolio of SEPs to continue the cycle of reinvesting these revenues in future R&D. U.S. companies
would be less likely to continue making costly and risky investments unless they are able to monetize their successful inventions. Strong IP rights, including SEPs, play a fundamental role in ensuring that companies are compensated and incentivized to contribute their inventions to global standards. Absent the ability to enforce SEPs effectively, only the global companies that receive significant public funding or state subsidies from their governments will be able to compete at the levels needed to lead in global technology standards.

The United States has been uniquely innovative through much of its history, fueled by a strong patent system. One reason innovation and competition particularly thrive in SEP-heavy industries is that balanced rules and the adoption of F/RAND commitments incentivize SEP owners to develop new technologies and to set reasonable royalties, while also incentivizing the market to adopt broadly the new technologies.

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The 2021 Draft Policy Statement would harm this balance. It would weaken the IP rights of owners, thereby reducing the willingness of firms to invest and create new technologies in the United States. It would discourage entrepreneurship and venture investment in technology firms seeking to bring innovative products to market. In the long run, the 2021 Draft Policy Statement also makes it more likely that innovative technologies with embedded SEPs are developed and manufactured outside the United States, ceding U.S. leadership in setting standards for the technologies of the future. This weakens the U.S. innovation system and compromises the related benefits of economic growth, global competitiveness, and national security.

Strengthening U.S. technological leadership—and therefore its national security position—should instead be advanced by maintaining a pro-innovation policy on standard-essential patents subject to voluntary F/RAND commitments.

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This report is made possible by general support to CSIS. No direct sponsorship contributed to this report.

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