Leveling the Playing Field in the Standards Ecosystem: Principles for A Balanced Antitrust Enforcement Approach to Standards-Essential Patents

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Thank you for inviting me to speak today, and my thanks to IAM and Global Competition Review for hosting this Summit on Standards Essential Patents. I want to take this opportunity to share my perspective on the role of antitrust in the development, implementation, and licensing of standards and standards-essential patents (SEPs).

In recent months, I have been asked whether the Antitrust Division will chart a balanced course at the intersection of antitrust and intellectual property. The answer is yes. Our analysis of intellectual property aims to appropriately reflect the competing policy considerations, the realities of innovation in the modern economy, and the law. It also generally aligns with the views of the Federal Trade Commission, and we have been working intensely to ensure collaboration and communications between the intellectual-property experts on the staff of each agency. Understanding the importance of transparency to the business community and the bar, I would like to begin to preview today some of the Antitrust Division's current positions in this area.

Industry-wide standards promote competition in a number of ways. Before a standard is adopted, competition to be the standard can drive innovation. Perhaps the most famous example of this is the so-called "War of the Currents" between Thomas Edison, George Westinghouse, and Nikola Tesla. Their rivalry paved the way for the modern world. As Tesla predicted, the alternating current would make it "possible . . . for a businessman in New York . . . to

¹ See Allison Lantero, The War of the Currents: AC vs. DC Power, U.S. DEP'T OF ENERGY (Nov. 2014), https://www.energy.gov/articles/war-currents-ac-vs-dc-power.

call . . . and talk with any telephone subscriber in the world" using "an inexpensive instrument no bigger than a watch, which will enable its bearer to hear anywhere on sea or land for distances of thousands of miles." That was in 1909. Fast forward a century—competition between standards continues to drive innovation across a vast array of industries, from cellular communications to emerging applications in the Internet of Things.

Once a standard is adopted, it can promote interoperability, reduce switching costs, and expand consumer choice. A world where every device needs to be compatible with dozens of different power outlets or networks is inefficient, expensive, and frustrating. Standards "make products less costly for firms to produce and more valuable to consumers." They can also give rise to new products. For example, many communications technologies—including the audio and video codecs that make today's virtual conference possible—would not exist without standards. Standardization can even foster dynamic competition by providing a forum for our most talented engineers to select the most promising new technologies over those that simply happen to be in the hands of a dominant incumbent.

It is therefore vital that the United States supports the standards ecosystem.⁴ Standards development organizations (SDOs) use a variety of safeguards to achieve the benefits of standardization while minimizing potential antitrust risks. These safeguards include, as articulated in guidance circulated by OMB, taking steps to ensure that the standards-development process is "open to interested parties," balanced, and consensus based, and that SDOs'

² The Current War "Battle of the Quotes," TESLA SCIENCE CENTER (Sept. 24, 2021, 11:09AM), https://teslasciencecenter.org/announcements/the-current-war-battle-of-the-quotes/.

³ U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, ANTITRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS: PROMOTING INNOVATION AND COMPETITION at 33 (2007), available at https://www.justice.gov/sites/default/files/atr/legacy/2007/07/11/222655.pdf [hereinafter 2007 Antitrust-IP Report]. ⁴ See Off. of Mgmt. & Budget, Revision of OMB Circular A-119, "Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities" at 2e, 81 F.R. 4673 (Jan. 27, 2016).

procedures provide for due process and appeals.⁵ When this ecosystem works well, competition in standardized products thrives and consumers benefit. When it does not, we can miss out on standards that might make us safer, healthier, or more connected.

SEPs are an important part of the standards ecosystem. SDOs recognize the value of having patented technologies incorporated into their standards and encourage participation by patent owners. Fierce competition often ensues. Many SDOs have adopted intellectual property rights (IPR) policies that allow for royalties if a patent is incorporated into a standard. To be sure, patent holders benefit when their technologies are chosen. They gain access to a potentially large market for their SEPs—and with this new market, the possibility of substantial royalties. At the same time, many SDOs require the timely disclosure of patent rights and a commitment to license on fair, reasonable, and non-discriminatory (or FRAND) terms. Through a FRAND licensing commitment, SEP holders forgo the ability to exercise any market power gained from standardization. Consequently, this commitment assures standards implementers that they will have access to SEPs on reasonable terms after a technology is standardized. While SDO IPR policies should facilitate efficient licensing, there are often disputes and unsavory negotiation tactics that make reaching a licensing agreement difficult. In these circumstances, standardized products can be delayed and consumers suffer.

The Antitrust Division has taken several steps in recent years aimed at encouraging standards development and good-faith SEP licensing. We have issued business review letters to SDOs and patent pools. We have released guidelines on the appropriate remedies for infringing SEPs subject to FRAND commitments and IP licensing generally. We have filed amicus briefs and statements of interest in district and appellate courts. We have engaged in competition

⁵ *Id* at 16.

advocacy with SDOs and their accrediting organization ANSI. Many of these steps helped make standards development and SEP licensing more competitive and efficient. Others arguably did not.

The reason that some of these initiatives worked while others failed is that the relationship between standards development, patents, and antitrust is complex. Care must be taken to strike the right balance. Antitrust encourages competition among technologies, products, and services, while standards development requires some degree of cooperation among market participants to agree on what form a standard will take. Patents confer a limited right to exclude, yet SEP holders often agree to share their technologies in order to be included in a standard and ultimately to benefit from its widespread adoption.

The challenge for antitrust enforcers is to balance these competing considerations. There is a healthy debate about how to do that. For example, President Biden's July 9 Executive Order on Promoting Competition in the American Economy, calls for the "the Attorney General and the Secretary of Commerce . . . to consider whether to revise their position on the intersection of the intellectual property and antitrust laws, including by considering whether to revise the Policy Statement on Remedies for Standards-Essential Patents Subject to Voluntary F/RAND Commitments." The Antitrust Division has begun this important work. In such a dynamic area—standards and technology—it is critical for the government to constantly reevaluate whether its policies promote competition.

Today, I would like to explain what the Antitrust Division is doing, and will be doing, to support the standards ecosystem. First, the Antitrust Division will open investigations and bring enforcement actions when anticompetitive conduct—by SEP holders or any other participants in

⁶ Exec. Order No. 14,036, 86 Fed. Reg. 36987 §5d (July 9, 2021).

the standards development process—harms competition. That does not mean that every licensing dispute invites an antitrust challenge. Antitrust claims are not a panacea for failed bilateral negotiation. But antitrust can and should play a role when the standards-setting process is used to thwart competition and harm consumers. Second, the Antitrust Division will promote government policies that encourage good-faith licensing negotiation. That includes providing clearer guidance on what good-faith negotiation looks like and how bad-faith conduct can hinder competition. Third, the Antitrust Division will support (and not discourage) SDOs in their efforts to adopt IPR policies that address licensing inefficiencies and enable the dissemination of standardized products to consumers. Finally, the Antitrust Division will strive to be transparent about our enforcement priorities and policy changes to ensure that firms participating in the standards ecosystem understand what conduct can run afoul of the antitrust laws.

Protecting Competition During the Standards-Setting Process

Let's start with SEPs and FRAND commitments. Standards are a critical part of our lives. They affect how our food is produced and packaged, how our homes are built, and the development of technology we depend on now more than ever. The development of standards offers significant benefits to consumers. It can also raise antitrust concerns. As the Supreme Court recognized in *Allied Tube*, when competing firms agree on a certain standard, they are implicitly agreeing "not to manufacture, distribute, or purchase certain types of products." For example, firms could hijack the standard-setting process to exclude competing technologies from consideration – not on the basis of merit, but simply because it furthers their commercial interests. Or firms could adopt standards with the express intent of excluding rivals from another market in which they compete. Another risk is hold up, whereby an SEP holder can demand

⁷ Allied Tube & Conduit Corp. v. Indian Head, Inc., 486 U.S. 492, 500 (1988).

royalties in excess of those that would have been negotiated before the standard was set because the licensee has sunk significant costs into bringing a product to market that relies on that standard.⁸

As I mentioned, many SDOs encourage or require firms to declare whether they own patents covering technology that might be incorporated into a standard and, if so, to commit to license those patents on FRAND terms. Such disclosures and commitments can promote access, facilitate licensing, and ultimately reduce SEP holders' ability to hold up licensees and associated antitrust concerns.

In recent years, the Antitrust Division has argued that a patent owner's breach of a FRAND commitment can *never* constitute an antitrust violation. Indeed, some of the Division's advocacy suggested that the antitrust laws are inapplicable to disputes involving SEPs and FRAND commitments.

But let's step back for a moment to consider the context in which these disputes arise. We have market participants, many of which are direct horizontal competitors, getting together to choose a single technology to be incorporated into a standard. Whether that collective action confers market or monopoly power is an empirical question. The answer relies on an assessment of the competitive landscape surrounding the standard. What alternatives were available to the chosen technology? Could the standard exist but for the chosen technology? What other market solutions might have arisen if fundamental disagreements over the FRAND rate for a technology were known before it was incorporated into the standard? And that's just a sampling.

⁸ 2007 Antitrust-IP Report, *supra* note 3, Ch. 2, § I.

⁹ See, e.g., Statement of Interest of the United States at 1-2, Cont'l Auto. Sys., Inc. v. Avanci, LLC, No. 3:19-CV-02933-M (N.D. Tex. Feb. 27, 2020).

This collective action among horizontal competitors, with the potential to generate procompetitive benefits as well as the potential to confer market or even monopoly power, opens the door for antitrust scrutiny. Courts by and large agree. In Broadcom, the Third Circuit held that "a patent holder's intentionally false promise [to an SDO] to license . . . on FRAND terms . . . coupled with an SDO's reliance on that promise when including the technology in a standard [and] . . . subsequent breach of that promise, is actionable anticompetitive conduct." Such antitrust liability helps safeguard competition "[d]uring the critical competitive period that precedes adoption of a standard" where deception might "confer an unfair advantage" or "bias the competitive process in favor of . . . [a] technology's inclusion in [a] standard." The D.C. Circuit reached a similar conclusion in Rambus. There, it emphasized that an SEP holder's distortion of the competitive process for developing a standard can trigger antitrust scrutiny. Thus, a plaintiff could establish an antitrust violation by showing that an SEP holder used deception and lured an SDO away from adopting an alternative technology. An SEP holder, by contrast, might show "that no suitable alternative technology was realistically available."

Broadcom and Rambus strike a balance between the value of providing limited exclusivity through IP protection and the importance of promoting competition under the antitrust laws. ¹⁵ These cases serve as a check on hold-up power that arises when firms are already "locked in" to using a particular standard. Once an implementer has committed to a standard, there is little it can do to counter an SEP holder's threat of exclusion. Small

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¹⁰ Allied Tube, 486 U.S. at 500 (recognizing that standards-development organizations "have traditionally been objects of antitrust scrutiny").

¹¹ Broadcom Corp. v. Qualcomm Inc., 501 F.3d 297, 314 (3d Cir. 2007).

¹² *Id.* at 313 (citing *Allied Tube*, 486 U.S. at 501).

¹³ Rambus Inc. v. FTC, 522 F.3d 456, 464 (D.C. Cir. 2008).

¹⁴ PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 712 (4th ed. Aug. 2019).

¹⁵ See also Bill Baer, Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Justice, International Antitrust Enforcement: Progress Made; Work To Be Done at 8, Remarks at 41st Annual Conference on International Antitrust Law and Policy (Sept. 12, 2014), http://www.justice.gov/atr/public/speeches/308592.pdf.

implementers that do not have the means to fight an infringement action are particularly vulnerable to hold-up strategies. Antitrust law ensures that the standard-setting process cannot be undermined by deceptive FRAND promises or other strategies that harm competition.

That does not imply that antitrust litigation is the right way to resolve every licensing dispute. Ultimately, antitrust is focused on conduct that harms competition and not high prices or unreasonable royalties alone. ¹⁶ Antitrust is not the right tool for licensees who are simply dissatisfied with the rate being offered to them by an SEP holder. While I recognize that licensing negotiations are often contentious and can result in antitrust claims, antitrust law is not a mechanism for powerful, incumbent firms to reduce the royalties they pay to implement standards where competition has not been harmed.

In sum, vigorous competition between technologies to be incorporated into standards is good for the standards ecosystem. Deception about which of these technologies will be licensed on FRAND terms is not. Antitrust enforcement policy should discourage deception and protect competition in the standards-setting process. Therefore, the Antitrust Division intends to adopt a careful, balanced approach here—one that serves competition and consumers, and preserves innovation incentives for both implementers and patent holders.

Promoting Procompetitive SEP Licensing Through Policy Making

The next topic I would like to address is the SEP Remedies Statement. Many of you are aware of this document's long history, but for those of you who are unfamiliar, let me provide some context. The Division and the U.S. Patent and Trademark Office (USPTO) first issued a

¹⁶ United States v. Microsoft Corp., 253 F.3d 34, 58 (D.C. Cir. 2001) ("From a century of case law on monopolization under § 2 . . . several principles do emerge. First, to be condemned as exclusionary, a monopolist's act must have an 'anticompetitive effect.' That is, it must harm the competitive process and thereby harm consumers. In contrast, harm to one or more competitors will not suffice. 'The [Sherman Act] directs itself not against conduct which is competitive, even severely so, but against conduct which unfairly tends to destroy competition itself.'"); Rambus, 522 F.3d at 466.

statement on SEP remedies in 2013. The statement explained the agencies' joint view that exclusionary relief to remedy infringement of FRAND-encumbered SEPs may harm competition by facilitating patent hold up. 17 The 2013 statement recognized, however, that exclusionary remedies may be in the public interest in some circumstances—for example, when a potential licensee is unwilling to take a license or is not subject to "the jurisdiction of a court that could award damages." ¹⁸ In December 2018, Antitrust Division leadership under the prior administration withdrew support for the 2013 statement, and in December 2019, the agencies, along with National Institute of Standards and Technology (NIST), issued a new statement.¹⁹ The 2019 statement indicated that no special remedies applied to SEPs, and courts and neutral decision makers should apply the traditional eBay test²⁰ and other relevant law to determine whether injunctive or exclusionary relief was appropriate. The 2019 statement has been criticized as favoring patent holders and promoting the use of injunctions or ITC exclusion orders to remedy SEP infringement. Although courts review the facts in each case independently, in the wake of eBay, injunctive relief for an SEP subject to a FRAND commitment has rarely been granted.

Consequently, President Biden's Executive Order on promoting competition asked the agencies to take another look at the SEP Remedies Statement. As I mentioned, we have begun

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¹⁷ 2007 Antitrust-IP Report, *supra* note 3, Ch. 2.

¹⁸ See generally U.S. DEP'T OF JUSTICE & U.S. PAT. & TRADE OFF., POLICY STATEMENT ON REMEDIES FOR STANDARDS-ESSENTIAL PATENTS SUBJECT TO VOLUNTARY F/RAND COMMITMENTS (Jan. 8, 2013), available at https://www.justice.gov/atr/page/file/1118381/download.

¹⁹ See generally, U.S. DEP'T OF JUSTICE ET AL., POLICY STATEMENT ON REMEDIES FOR STANDARDS-ESSENTIAL PATENTS SUBJECT TO VOLUNTARY F/RAND COMMITMENTS (Dec. 19, 2019), available at https://www.justice.gov/atr/page/file/1228016/download.

²⁰ eBay Inc. v. MercExchange, L.L.C., 547 U.S. 388 (2006). ("According to well-established principles of equity, a plaintiff seeking a permanent injunction must satisfy a four-factor test before a court may grant such relief. A plaintiff must demonstrate: (1) that it has suffered an irreparable injury; (2) that remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction.").

this process, so stay tuned. In my view, no policy statement should favor—or be perceived to favor—particular stakeholders or business interests. Rather it is the Antitrust Division's goal to provide balanced policy guidance that promotes competition for all participants in the standards ecosystem. Participants in this ecosystem all suffer when individual patent holders or implementers act opportunistically or in bad faith. And consumers bear the brunt of it when such behavior delays the introduction of standardized products or reduces investment in the standards themselves. The Antitrust Division plans to work in partnership with USPTO and NIST and consult with the FTC on how best to respond to the Executive Order's call for a more procompetitive and balanced policy.

Department Review of SDO Policies

As I mentioned in my opening, it is important that antitrust enforcement policy support SDO policies that address licensing inefficiencies and promote good-faith negotiation. The Antitrust Division supports the development of SDO IPR policies that promote good-faith FRAND licensing negotiation in the U.S. and abroad. SDOs are well situated to provide clarity and resolve some of the bottlenecks in FRAND licensing.

Several SDOs have used the business review process to determine whether the Department likely would challenge a proposed IPR policy change as anticompetitive. For example, the Division issued positive business review letters to VITA in 2006 and to IEEE in 2007 and 2015. Both SDOs amended their IPR policies to include provisions permitting the *ex ante* disclosure of SEP holders' most restrictive licensing terms. As regards VITA's policy

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²¹ Letter from Thomas O. Barnett, Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Justice, to Robert A. Skitol, Esq., Drinker, Biddle & Reath, LLP (Oct. 30, 2006) [hereinafter VITA Letter]; Letter from Thomas O. Barnett, Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Justice, to Michael A. Lindsay, Partner, Dorsey & Whitney (Apr. 30, 2007); Letter from Renata B. Hesse, Acting Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Justice, to Michael A. Lindsay, Esq., Partner, Dorsey & Whitney (Feb. 2, 2015) [hereinafter 2015 IEEE Letter].

change, the Division concluded that it was unlikely to harm competition, and indeed could help to avoid "unreasonable patent licensing terms that might threaten the success of future standards and to avoid disputes over licensing terms that can delay adoption and implementation after standards are set." When IEEE further defined participants' licensing obligations in 2015, the Division concluded that revisions to IEEE's patent policy had "the potential to benefit competition and consumers by facilitating licensing negotiations, mitigating hold up and royalty stacking, and promoting competition among technologies for inclusion in standards." ²³

We understand that the Division's 2020 supplemental competition advocacy letter to IEEE questioning the merits of the 2015 business review may have shaken confidence in the business-review process and deterred efforts by SDOs to promote best practices. ²⁴ That is why the Department acted this past April and removed the 2020 supplemental competition advocacy from IEEE's 2015 review file. ²⁵ We relocated it to our comments and advocacy webpage where we believe it is more appropriately located.

This procedural correction demonstrates the Department's commitment to preserving the integrity of the business-review process. For those not familiar, since 1968, through this process parties have been seeking guidance about the Antitrust Division's enforcement intentions with respect to prospective conduct. The Division's review may indicate whether we intend to bring

²² VITA Letter, *supra* note 21, at 10.

²³ 2015 IEEE Letter, *supra* note 21, at 16.

²⁴ Letter from Makan Delrahim, Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Justice, to Sophia A. Muirhead, Gen. Counsel & Chief Compliance Officer, IEEE (Sept. 10, 2020).

²⁵ See Comments to States and Other Organizations, U.S. DEP'T OF JUSTICE (Sept. 24, 2021, 12:03PM), https://www.justice.gov/atr/comments-states-and-other-organizations.

an enforcement action when the conduct begins, but we also have the discretion to decline to comment or review a particular request.²⁶

Given the necessity of collective action to the standard-setting process, it is no surprise that SDOs and other IP joint ventures are repeat customers of the Department's business-review program.²⁷ But the program has also been helpful in other contexts. For example, the Division reviewed several collaborations during the course of the pandemic involving coordination among competitors and FEMA to distribute necessary PPE or other critical medicines and supplies needed to treat COVID-19.²⁸

A positive business review is a statement that the Division has no present intention to challenge the proposed conduct based on the facts the parties provided. It is not an actual *endorsement* of the conduct. We make this point expressly in the 2015 IEEE letter²⁹ and more recently in our review of the Avanci patent pool. The Avanci patent pool proposed to license automakers making connected cars. The Division concluded that the pool was unlikely to harm competition because it incorporated a number of antitrust safeguards and efficiently provided

²⁶ See Business Reviews, U.S. DEP'T OF JUSTICE (Sept. 24, 2021, 12:03PM), https://www.justice.gov/atr/business-reviews.

²⁷ See, e.g., Letter from Makan Delrahim, Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Justice, to Garrard R. Beeney, Partner, Sullivan & Cromwell (Jan. 13, 2021); Letter from Makan Delrahim, Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Justice, to Mark H. Hamer, Partner, Baker & McKenzie (July 28, 2020) [hereinafter Avanci Letter].

²⁸ Letter from Makan Delrahim, Assistant Att'y Gen. of Antitrust, U.S. Dep't of Justice, to Sara Y. Razi, Partner, Simpson Thacher & Bartlett LLP (Jan. 12, 2021); Letter from Makan Delrahim, Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Justice, to John G. Chou, Executive Vice President, AmerisourceBergen Corporation (Apr. 20, 2020); Letter from Makan Delrahim, Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Justice, to Lori A. Schechter et al. (Apr. 4, 2020); Letter from Makan Delrahim, Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Justice, to Thomas O. Barnett, Partner, Covington & Burling (July 23, 2020).

²⁹ 2015 IEEE Letter, *supra* note 21. In the 2015 IEEE letter, we said "It is not the Department's role to assess whether IEEE's policy choices are right for IEEE as a standards-setting organization ("SSO"). SSOs develop and adjust patent policies to best meet their particular needs. It is unlikely that there is a one-size-fits-all approach for all SSOs, and, indeed, variation among SSOs' patent policies could be beneficial to the overall standards-setting process. Other SSOs, therefore, may decide to implement patent policies that differ from [the policy change]." We see variation in policies from different national and international SDOs such as ATIS, IEEE, ETSI, VITA and others.

access to thousands of complementary SEPs.³⁰ We did not endorse, however, the pool's approach of licensing only automakers or take a position on what licensing method was best for the automotive industry. ³¹ Rather, the Avanci letter stated explicitly that the Department made "no assessment of whether end-device licensing will be successful in the automotive industry or whether it is the correct approach to licensing in this space."³²

The Importance of Transparency

Finally, a few words on transparency. I believe the Division should strive to be transparent about our enforcement priorities in the SEP area. Transparency is important to ensure that firms participating in the standards ecosystem understand the Division's approach and avoid violating the antitrust laws. Our hope is that this speech and others to come will provide greater transparency into the Division's policy.

But speeches are not the only vehicle available to us. We promulgate guidance documents, such as the Antitrust Guidelines for the Licensing of Intellectual Property and the SEP Remedies Statement.³³ We also file amicus briefs in the courts of appeal and statements of interest in district courts to provide transparency and to educate the courts on complicated issues of antitrust law. The Division is committed to using all available tools to provide transparency as our policies and the law continue to develop.

³⁰ Avanci Letter, *supra* note 27.

³¹ Avanci Letter, *supra* note 27. ("[T]he Department makes no assessment of whether end-device licensing will be successful in the automotive industry or whether it is the correct approach to licensing in this space . . . We simply opine, based on Avanci's representations and our review, that Avanci's approach, which has the potential to aggregate a significant number of cellular SEPs in the marketplace and streamline licensing, is unlikely to harm competition.").

³² Avanci Letter, *supra* note 27, at 21.

³³ See U.S. Dep't of Justice & Fed. Trade Comm'n, Antitrust Guidelines for the Licensing of INTELLECTUAL PROPERTY (Jan. 12, 2017), https://www.justice.gov/atr/IPguidelines/download.

Conclusion

An antitrust enforcer's most important task is to protect competition. We must enforce the law in a balanced and transparent manner. This balance is particularly critical at the intersection of IP, standards development, and antitrust. When we get the balance right, we all benefit. Just look at the world Nikola Tesla imagined—an era of connected smartphones. It depends on a vibrant standards ecosystem. Unlike Tesla, I do not know what technology will define the next era. But I am confident that it will depend on standards. From self-driving cars to the Internet of Things, the world we want to live in will be built by standards. Our policy choices today can make that world possible tomorrow.