



Regulatory Transparency Project

Unlocking Innovation & Opportunity

Aligning Intellectual Property, Antitrust, and National Security Policy

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Introduction

Although much of the excitement about 5G wireless technology focuses on how it will improve every aspect of our lives – from smart homes to smart cities, from healthcare to food to business to entertainment – this technology is also critical for an often-invisible, but even more critical, application: national security. 5G is a vast improvement over existing mobile technology, with massively increased speeds of data transfer and other enhanced capacities. The benefits this unprecedented speed and capacity will have for the United States military include improved surveillance and reconnaissance systems, new and more accurate methods of command and control, and integrated and streamlined logistics systems for increased efficiency.¹ On the other hand, the same technological advancements facilitated by 5G technology may also give rise to new cybersecurity vulnerabilities.

Although it is the future of everything, 5G does not pose a potential problem in some far-off future. Today, the U.S. is already depending on a wide array of 5G technology suppliers for its national security system. For example, the national security programs of the Department of Defense (DOD) rely on continued access to telecommunication products made by companies with security clearance on a range of active classified and unclassified prime government contracts.² Devices that rely on such wireless technology include those used to command troops in combat, control drones, target smart munitions, and perform other vital military functions.³ Allied partnerships with the U.S. also depend on its efforts to address cybersecurity in the next generation of wireless, 5G, and Internet of things.⁴

To ensure the safety of the systems on which the U.S. military relies and avoid unknown and unexpected cybersecurity vulnerabilities, the U.S. must remain an active and competitive participant in 5G development. Antitrust policies that undermine the intellectual property rights of U.S. innovators will diminish U.S. companies' ability to invest in research and development (R&D) and to compete in the global 5G ecosystem. Even more important than increased economic growth, new jobs, and enhanced daily lives, these antitrust policies must be changed for the sake of U.S. national security.

I. 5G Foundational Technology Must Be Secure

The first link in a secure wireless security supply chain starts with the science and standards that form the foundation of any new technological ecosystem. Components and products cannot be built on untrustworthy and unreliable foundational technologies. The DOD's principal concern in accelerating the implementation of 5G has been ensuring that the systems of the United States and its allies and partners are "robust, protected, resilient, and reliable."⁵ Therefore, while the U.S. and

¹ Congressional Research Service, *National Security Implications of Fifth Generation (5G) Mobile Technologies* (June 4, 2020), <https://fas.org/sgp/crs/natsec/IF11251.pdf>.

² Letter from Aimen N. Mir, Dty. Asst. Sec'y for Investment Security to Mark Plotkin, Covington & Burling LLP and Theodore Kassinger, O'Melveny & Myers LLP, March 5, 2018.

³ Congressional Research Service, *National Security Implications of Fifth Generation (5G) Mobile Technologies* (June 4, 2020), <https://fas.org/sgp/crs/natsec/IF11251.pdf>.

⁴ See *supra* note 2.

⁵ See *supra* note 1.

its allies continue to adopt and deploy 5G technology around the world, they must also remain vigilant of threats posed by economic and military adversaries' attempts to dominate the 5G market, especially in 5G infrastructures deployed in nations that are strategic partners of the U.S. Otherwise, these systems could be exposed to vulnerabilities such as unauthorized network and data access enabled by exploited components in the supply chain; malicious software; and/or insider threats.⁶ The U.S. must also be wary of adversaries leveraging their position in the 5G economic market to advocate technology and policy initiatives that undercut U.S. interests.⁷ An unprotected 5G network presents national cybersecurity risks that affect not only the privacy of U.S. citizens but also military operations.

II. The United States Plays a Critical Role in 5G Standards Development

The U.S. government has recognized that “5G is a critical strategic technology [such that] nations that master advanced communications technologies and ubiquitous connectivity will have a long-term economic and military advantage.”⁸ The U.S. has had a substantial technological edge over our military and intelligence rivals in foundational R&D for 5G and other next-generation technologies. U.S. companies have long been leaders in the development of previous generations of core mobile standards (2G, 3G, 4G, and LTE). This technological leadership has made it possible for U.S. companies to ensure the security and integrity of the hardware and software products that make up the backbone of the U.S. telecommunication systems. This leadership must continue for the U.S. government to more effectively anticipate potential security risks and take the necessary steps to protect national security.⁹

Despite this history of clear technological leadership, there are causes for concern. First, a very small number of U.S. companies have made the investments in the overwhelming majority of the R&D necessary to develop 5G.¹⁰ Historically, U.S. companies have heavily invested in R&D, which has propelled the U.S. into leadership positions in critical standard development organizations working on foundational next-generation technologies like 5G.¹¹ U.S. companies like Qualcomm play a significant and important role in this process through innovation, patenting, and standard setting, but they are not alone in the global community of high-tech companies.¹² Backed by their nations' leadership, Chinese and Korean companies have also invested heavily in developing the core technologies for 5G.¹³

⁶ *Id.*

⁷ *Id.*

⁸ *Id.*

⁹ *See supra* note 3.

¹⁰ Mathew Noble, Jane Mutimear, and Richard Vary, *Determining which companies are leading the 5G race* (July/Aug. 2019), <https://www.twobirds.com/~media/pdfs/news/articles/2019/determining-which-companies-are-leading-the-5g-race.pdf>.

¹¹ *See supra* note 3.

¹² *Id.*

¹³ *Id.*

The willingness of U.S. companies to invest in R&D is threatened, however. The development of 5G is a bit like a race, with the companies who develop the best technology coming out ahead. While U.S. companies are savvy and talented competitors in this race, aggressive and unwarranted use of antitrust law by U.S. regulators, as well as by foreign antitrust authorities, threatens to put obstacles in these companies' paths and hinder their ability to lead.

III. Overly Aggressive Antitrust Enforcement Hinders American Technological Leadership and Threatens National Security

As companies from around the world develop the technology and standards for 5G mobile devices and networks, American companies are under threat by aggressive antitrust enforcement that ultimately redounds to the benefit of these foreign companies, which are economic competitors in countries that are also military competitors of the U.S. Over the past five years, foreign governments, particularly in Asia, have subjected U.S. companies to antitrust investigations that failed to follow basic norms of the rule of law, such as providing basic due process protections.¹⁴ These antitrust investigations were a thinly-disguised effort by these countries to force the transfer of U.S. patented technology to their own domestic companies, or to insulate their domestic companies from American competition. In recent years, Chinese, Korean, and Taiwanese antitrust authorities have brought nearly 30 investigations against 60 foreign companies across a range of industries, including manufacturing, life sciences, and technology.¹⁵

Antitrust challenges undermine intellectual property rights by forcing companies to license their products on non-market-based terms. One prominent example in U.S. history is when the Department of Justice wrung a concession from AT&T to license royalty-free the entire portfolio of 8,600 patents held by Bell Labs in a 1956 antitrust consent decree with the company.¹⁶ Today, the White House Office of Trade and Manufacturing Policy has observed that “China uses the Antimonopoly Law of the People’s Republic of China not just to foster competition but also to force foreign companies to make concessions such as reduced prices and below-market royalty rates for licensed technology.”¹⁷ Companies have also complained about poor policy guidance and procedural protections under China’s competition laws.¹⁸ Others have complained about China’s use of its competition laws to promote policy objectives rather than protect competition and

¹⁴ Bart Eppenuer, *Emerging Antitrust Regulation of Intellectual Property Licensing in Asia*, IP WATCHDOG (Aug. 16, 2015), <https://www.ipwatchdog.com/2015/08/16/emerging-antitrust-regulation-of-intellectual-property-licensing-in-asia/id=60693/>.

¹⁵ *Id.*; Freshfields Bruckhaus Deringer, *Antitrust in Asia* (2018), https://www.freshfields.com/49fad8/globalassets/our-thinking/campaigns/antitrust-in-asia/06304_pg_act_asia-guide_aw_new.pdf.

¹⁶ Jon Gertner, *The Idea Factory: Bell Labs and the Great American Age of American Innovation* 182-83 (2012).

¹⁷ White House Office of Trade and Manufacturing Policy, *How China’s Economic Aggression Threatens the Technologies and Intellectual Property of the United States and the World* (June 2018), <https://www.whitehouse.gov/wp-content/uploads/2018/06/FINAL-China-Technology-Report-6.18.18-PDF.pdf>.

¹⁸ Office of the United States Trade Representative, *Findings of the Investigation into China’s Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation Under Section 301 of the Trade Act of 1974* (March 22, 2018), <https://ustr.gov/sites/default/files/Section%20301%20FINAL.PDF>.

advance consumer welfare.¹⁹ In one example, companies raised concerns with Article 7 of China’s State Administration of Industry Commerce (SAIC) 2015 Rules on the Prohibition of Conduct Eliminating or Restricting Competition by Abusing Intellectual Property Rights.²⁰ Under this provision, intellectual property constitutes an “essential facility,” which could allow parties to raise abuse of intellectual property rights claims against patent owners for a unilateral refusal to license their patents.²¹

Predatory antitrust enforcement actions threaten the ability of U.S. companies to continue to be leaders in 5G technological development. China and other nations with similarly restrictive regulatory frameworks can weaken the ability of the United States to compete in global markets by exacting high monetary penalties from U.S. intellectual property owners or forcing the transfer of their intellectual property to domestic commercial rivals. As a penalty for violations of its competition laws, China can impose exorbitant fines that range up to 10% of a foreign company’s entire revenue in the prior year.²² This is not a legal rule observed in the breach; it has already resulted in fines just shy of \$1 billion.²³

Another way in which courts in China and other foreign countries are harming U.S. companies is through the use of anti-suit injunctions. One example of this is in the recent patent infringement lawsuit brought by InterDigital, an American high-tech company that has developed key technologies in wireless telecommunication, against Chinese company Xiaomi. In June 2020, Xiaomi filed a lawsuit in the Wuhan Intermediate Court in China requesting that the court set global licensing rates for InterDigital’s patents on standardized technologies. In July 2020, InterDigital sued Xiaomi in India for infringement of InterDigital’s Indian patents. The Wuhan Intermediate Court then ordered InterDigital to stop its lawsuit with its request for an injunction in India. The Chinese court further prohibited InterDigital from suing Xiaomi and requesting an injunction or damages in the form of reasonable licensing rates, or even to enforce a previously-issued injunction, in any other country. If InterDigital does not comply with this worldwide injunction against pursuing legal relief for the violation of its patents in any other country, the company faces a significant fine in China. The type of judicial order issued by the Wuhan court is known as an anti-suit injunction and its purpose is to force an intellectual property dispute to play out solely in a Chinese court at the behest of the Chinese government. These court orders demonstrate China’s desire to become the source of 5G innovation and to dictate the licensing terms of the technology, and the anti-suit injunctions hamstring U.S. companies like InterDigital from enforcing their intellectual property rights anywhere in the world.

The unfair use of antitrust enforcement and related legal actions like anti-suit injunctions to weaken U.S. intellectual property rights around the world risks diminishing U.S. global competitiveness in critical technologies like 5G, and further empowers China and others to expand their influence over the evolving 5G technological ecosystem. To the extent the U.S. cedes its dominance in 5G standards development, China will continue its focused efforts to fill that void. Huawei, a China-based company, has increased its R&D spending while growing its share of patents on the

¹⁹ See *supra* note 16.

²⁰ *Id.*

²¹ *Id.*

²² See *supra* note 15.

²³ *Id.* (reporting a fine of \$975 million).

standardized technologies comprising 5G.²⁴ The President’s Council on Science and Technology issued a report concluding that Chinese actions in the semiconductor industry, which include a range of policies backed by over \$100 billion in government funds, threaten U.S. leadership in the industry and present risks to U.S. national security.²⁵ China’s “Made in China 2025” plan called for China to become a leader in 5G technology, including in the development of the standards for the technology, by 2020.²⁶ The plan expressly favors Chinese domestic producers, calling for raising the domestic content of core components in high-tech industries like 5G to 70% by 2025.²⁷

This issue, however, extends far beyond simply the ability and willingness of U.S. companies to engage in the requisite R&D to participate in the 5G race. Reduced U.S. influence on 5G standard-setting would force the U.S. government to rely on untrusted foreign companies for its 5G product supply. The Department of the Treasury has expressed concern about the “well-known” U.S. national security risks posed by Huawei and other Chinese telecommunications companies.²⁸

IV. Protecting U.S. Global Leadership in 5G and Other Next-Generation Technologies

Innovative U.S. companies need help to continue to be active participants in the global 5G race. Filing lawsuits in U.S. courts, however, is too slow and not necessarily advantageous. An alternative to court litigation would be to authorize mechanisms for executive agency actions to address foreign abuses of patented inventions created and owned by U.S. innovators. There are several options available to the U.S. government to implement alternative forums for addressing these unique legal and policy problems at the nexus of international relations, intellectual property policy, and U.S. national security policy.

One draft bill proposes a solution: The Protecting American Innovation and Development Act of 2021 (PAID) would authorize the Secretary of Commerce to create and maintain a list of foreign “bad actors” who are engaging in patent infringement of a standard essential patent in wireless communication technologies like 5G.²⁹ If a U.S. company can demonstrate that it owns a valid patent and a foreign entity is using that patent without a license from this patent owner, then the foreign entity would be moved to the “bad actor” list for one year, during which time the foreign entity would be required to negotiate a license or engage in binding arbitration with the U.S. patent owner. To protect the leadership of American companies in the development of 5G, and in turn protect U.S. national security, the PAID Act should be enacted by Congress, creating a more efficient and alternate institutional mechanism for securing key U.S. intellectual property rights.

²⁴ *Id.*

²⁵ President’s Council of Advisors on Science and Technology, *Report to the President Ensuring Long-Term U.S. Leadership in Semiconductors* (Jan. 2017), https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/PCAST/pcast_ensuring_long-term_us_leadership_in_semiconductors.pdf.

²⁶ James McBride and Andrew Chatzky, *Is ‘Made in China 2025’ a Threat to Global Trade?* (May 13, 2019), <https://www.cfr.org/backgrounder/made-china-2025-threat-global-trade>.

²⁷ *Id.*

²⁸ *See supra* note 3.

²⁹ Protecting American Innovation and Development Act of 2021, S.39 (introduced Jan. 25, 2021).