

Congress of the United States

House of Representatives

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

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July 19, 2018

The Honorable Robert E. Lighthizer
United States Trade Representative
600 17th Street, NW
Washington, D.C. 20508

Dear Ambassador Lighthizer,

We are writing to express our continued concern with the aggressive laws, policies, and actions of China related to U.S. technology, research and development, intellectual property, and innovation. While many countries—including China, Iran, Russia, and North Korea—are known to target U.S. research and development, the most pervasive threats in recent years appear to be emanating from China.¹ China has undertaken a concerted effort to strengthen its economic standing through a wide range of unfair practices. By seeking to access and steal valuable information and technology from U.S. companies, academic institutions, and researchers, China and its state-owned and backed companies now have the ability to be aggressive players in numerous industrial and technical sectors and aim to “improve their own products or get to market first with innovative ideas or products.”² Through their extensive government actions, China is “implementing a comprehensive, long-term industrial strategy to ensure its global dominance . . . [with an] ultimate goal [] for domestic companies to replace foreign companies as designers and manufacturers of key technology and products first at home, then abroad.”³

According to a report recently released by the White House, the Chinese government is “seek[ing] to access the crown jewels of American technology and intellectual property”⁴

¹ Press Release, U.S. Dep’t of Justice, *Nine Iranians Charged With Conducting Massive Cyber Theft Campaign on Behalf of the Islamic Revolutionary Guard Corps* (Mar. 23, 2018), <https://www.justice.gov/opa/pr/nine-iranians-charged-conducting-massive-cyber-theft-campaign-behalf-islamic-revolutionary>; see *Scholars or Spies: Foreign Plots Targeting America’s Research and Development: Hearing Before the Subcomms. on Oversight and Research & Tech. of the H. Comm. on Sci., Space, & Tech.*, 115th Cong. (2018).

² FED. BUREAU OF INVESTIGATION, HIGHER EDUCATION AND NATIONAL SECURITY: THE TARGETING OF SENSITIVE, PROPRIETARY AND CLASSIFIED INFORMATION ON CAMPUSES OF HIGHER EDUCATION 1 (Apr. 2011), <https://www.fbi.gov/file-repository/higher-education-national-security.pdf/view>.

³ U.S.-CHINA ECON. & SECURITY REVIEW COMM’N, 2017 REPORT TO CONGRESS 24 (Nov. 2017), https://www.uscc.gov/sites/default/files/annual_reports/2017_Annual_Report_to_Congress.pdf [hereinafter USCC 2017 REPORT].

⁴ THE WHITE HOUSE, OFFICE OF TRADE & MFG. POLICY, HOW CHINA’S ECONOMIC AGGRESSION THREATENS THE TECHNOLOGIES AND INTELLECTUAL PROPERTY OF THE UNITED STATES AND THE WORLD 2 (June 2018), <https://www.whitehouse.gov/wp-content/uploads/2018/06/FINAL-China-Technology-Report-6.18.18-PDF.pdf>

utilizing “state funding, regulations, China-specific standards, localization targets, government procurement, foreign investment restrictions, recruitment of foreign talent, close integration of civilian and military technology development, and, in some cases, industrial espionage” to achieve their ambitious and dangerous plans.⁵ Addressing China’s unfair economic practices to create a level playing field will benefit all Americans. We encourage continued investigation of China by the U.S. Trade Representative (USTR) and support the USTR’s decision to place China on the Priority Watch List.⁶ China’s placement on the Priority Watch List “reflects the urgent need to remediate a range of IP-related concerns,” including technology transfer requirements and theft of IP.⁷

The Committee on Science, Space, and Technology has increasingly focused its oversight efforts on foreign nations’ attempts to steal federally-funded U.S. research and development. On April 11, 2018, the Oversight and Research and Technology Subcommittees held a hearing on this exact topic. The hearing helped raise Members’ awareness of China’s concerted efforts to exploit public and private U.S. research and development. Publicly available information, ongoing investigations,⁸ and testimony before the Committee⁹ highlight a pattern of targeted attempts to access and exfiltrate federally-funded equities from U.S. academic institutions. This is troubling and the Committee will continue its efforts to determine the extent to which research and development is appropriately being safeguarded.

The Chinese government has published extensive plans to innovate and modernize Chinese domestic science and technology development to the inevitable detriment of the U.S. Many of the plans have consistently emphasized the pursuit and funding of advanced development and commercialization over basic and fundamental research.¹⁰ The plans also identify science and technology sectors that the Chinese government deems most valuable and critical to its economic and military needs, sectors in which many U.S. industries are key leaders. Of particular concern are China’s policies and practices targeting fields of research and development in key U.S. industrial sectors such as: biotechnology, information technology, advanced materials, advanced manufacturing, advanced energy technology, marine technology, laser technology, and aerospace technology.¹¹ A significant element of these aggressive Chinese

[hereinafter WHITE HOUSE OTMP REPORT]; see also Cory Bennett & Bryan Bender, *How China acquires ‘the crown jewels’ of U.S. technology*, POLITICO (May, 22, 2018), <https://www.politico.com/story/2018/05/22/china-us-tech-companies-cfius-572413>.

⁵ USCC 2017 Report, *supra* note 3.

⁶ See OFFICE OF THE U.S. TRADE REP., 2018 SPECIAL 301 REPORT (2018), <https://ustr.gov/sites/default/files/files/Press/Reports/2018%20Special%20301.pdf>.

⁷ *Id.* at 5.

⁸ See Letter from Hon. Lamar Smith, H. Comm. on Sci., Space, & Tech., to Dr. Timothy D. Sands, Virginia Polytechnic Institute & State Uni. (Oct. 5, 2017); Christa Marshall, *Committee probes alleged DOE, NSF scam*, E&E NEWS (Oct. 6, 2017), <https://www.eenews.net/eedaily/stories/1060062865/feed>.

⁹ See *Scholars or Spies: Foreign Plots Targeting America’s Research and Development: Hearing Before the Subcomms. on Oversight and Research & Tech. of the H. Comm. on Sci., Space, & Tech.*, 115th Cong. (2018).

¹⁰ See Micah Springut et al., *China’s Program for Science and Technology Modernization: Implications for American Competitiveness*, CENTRA TECH., INC. (Apr. 20, 2011), https://www.uscc.gov/sites/default/files/Research/USCC_REPORT_China%27s_Program_forScience_and_Technology_Modernization.pdf.

¹¹ OFFICE OF THE U.S. TRADE REP., FINDINGS OF THE INVESTIGATION INTO CHINA’S ACTS, POLICIES, AND PRACTICES RELATED TO TECHNOLOGY TRANSFER, INTELLECTUAL PROPERTY, AND INNOVATION UNDER SECTION 301 OF THE

actions is the substantial funding and support provided by the Chinese government to bolster certain “national champions” in the targeted industrial sectors. These “national champions” are actively producing within the U.S. market, with plans to eventually dominate their U.S. competitors.¹²

One example of China specifically targeting key industrial sectors is its focus on the chemical industry. China seeks to “establish a number of globally leading chemical companies with recognized global brands and strong owned technologies” and “turn from a big chemical country into a great chemical power.”¹³ In an even more aggressive effort in “bringing huge development space to [the] new chemical materials industry,” China has targeted specific chemical subsectors, including: engineering plastics, high-end polyolefin plastics, polyurethane, high performance rubber, high performance fiber and composite materials, functional membrane materials, fluorosilicone materials, electronic chemicals, and 3D printing materials.¹⁴

In addition to its science and technology development plans, China also leverages extensive talent recruitment programs to entice researchers, professors, and students who are conducting research in targeted areas.¹⁵ The Chinese government exploits these relationships to coerce and fund Chinese nationals and other researchers to exfiltrate research and development back to China and its supported companies.¹⁶ Additionally, the increasing magnitude of open source information harvesting and exploitation by Chinese actors and spies of foreign technology, research, and IP has allowed China to circumvent risks of basic research and “reduc[e] research costs by 40 to 50 percent and time by 60 to 70 percent.”¹⁷ Public accounts indicate the Chinese government has gone so far as to systematically track National Science Foundation grants, grantees, and the research of these scientists at academic institutes across the U.S.¹⁸ These efforts, combined with the increasing presence of Chinese propaganda arms—like Confucius Institutes—and significant Chinese financial investments at U.S. academic institutions,¹⁹ have created a glaring problem that must be addressed.

TRADE ACT OF 1974, at 10-17 (Mar. 22, 2018), <https://ustr.gov/sites/default/files/Section%20301%20FINAL.PDF> [hereinafter USTR, 301 CHINA FINDINGS].

¹² USCC 2017 REPORT, *supra* note 3.

¹³ Elsevier R&D Solutions, *China's chemical industry: Moving towards basic research* 3 (2016), <https://www.elsevier.com/rd-solutions/industry-insights/chemicals/ty/petroleum-and-chemical-industry-of-china?>

¹⁴ See e.g., KPMG, CHINA'S CHEMICAL INDUSTRY: THE NEW FORCES DRIVING CHANGE (2011), <https://www.kpmg.de/docs/China-Chemical-Industry-201109.pdf>; Frank Esposito, *US resins have caught the attention of China*, PLASTICS NEWS (Apr. 13, 2018), <http://www.plasticsnews.com/article/20180413/BLOG07/180419946/us-resins-have-caught-the-attention-of-china>.

¹⁵ *Counterintelligence Strategic Partnership Note: Chinese Talent Programs*, FED. BUREAU OF INVESTIGATION (Sept. 2015), <https://compliance.fiu.edu/documents/SPIN%20-%20Chinese%20Talent%20Program.pdf>.

¹⁶ *Id.*

¹⁷ Peter Mattis, *A Guide to Chinese Intelligence Operations*, WAR ON THE ROCKS (Aug. 18, 2015), <https://warontherocks.com/2015/08/a-guide-to-chinese-intelligence-operations/>; WHITE HOUSE OTMP REPORT, *supra* note 4, at 13-14.

¹⁸ *Office of the U.S. Trade Representative Section 301 Investigation and Hearing: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation Before the Interagency Section 301 Comm.* 50 (Oct. 10, 2017), <https://ustr.gov/sites/default/files/enforcement/301Investigations/China%20Technology%20Transfer%20Hearing%20Transcript.pdf>; USTR, 301 CHINA FINDINGS, *supra* note 11, at 203.

¹⁹ See Bethany Allen-Ebrahimian, *China's Long Arm Reaches Into American Campuses*, FOREIGN POLICY (Mar. 7, 2018), <http://foreignpolicy.com/2018/03/07/chinas-long-arm-reaches-into-american-campuses-chinese-students->

The impact of China's actions is even more evident in the growth and dominance exhibited by some of its state-owned or state-sponsored companies. Many have gone from being mere "workshops" with few assets, to some of the world's largest companies in their respective sectors. Financial backing and massive subsidies from the Chinese government, such as tax rebates to undercut global prices, combined with the transfer of Western research and technology, has resulted in unprecedented growth in the scope and scale of key Chinese industries. Determined to dominate global markets in these sectors, many Chinese companies are using a combination of predatory import practices (e.g., dumping) and predatory investments to strategically control significant markets.²⁰ None of this would be possible without the aggressive and troubling actions of the Chinese government.

While China's overall efforts have created significant problems for U.S. companies and their employees, the element of utilization of Western research and technology acquired through veiled means is something that we recognize is difficult to combat. One concerning element is how China enforces strict foreign ownership restrictions that "force or induce the transfer of technology and IP, often as a condition of access to the Chinese market."²¹ With these requirements that deviate far from international norms, China can "prohibit foreign investors from operating in certain industries [in China] unless they partner with a Chinese company," which subjects business to the risk of technology and IP transfer.²² Additionally, China's licensing and permitting process requires Western companies seeking to build facilities and expand their business in China to share highly confidential designs, studies, and source code with various boards and government entities.²³ These requirements are extremely problematic since the government is then able to, and routinely does, share this highly valuable information with competing companies based in China. As a result of these aggressive and predatory actions by the Chinese government, unprecedented growth over a relatively short period of time for many of these state-owned or state-sponsored companies has coincided with the forced introduction of Western technology in China.

In repeated bilateral commitments to eliminate aspects of its technology transfer regime, China has agreed "not to pressure the disclosure of trade secrets in regulatory or administrative

scholars-association-university-communist-party/; Rachele Peterson, *American Universities Are Welcoming China's Trojan Horse*, FOREIGN POLICY (May 9, 2017), <http://foreignpolicy.com/2017/05/09/american-universities-are-welcoming-chinas-trojan-horse-confucius-institutes/>; Bethany Allen-Ebrahimian, *This Beijing-Linked Billionaire Is Funding Policy Research at Washington's Most Influential Institutions*, FOREIGN POLICY (Nov. 28, 2017), <http://foreignpolicy.com/2017/11/28/this-beijing-linked-billionaire-is-funding-policy-research-at-washingtons-most-influential-institutions-china-dc/>; Elizabeth Redden, *Thanks, but No, Thanks*, INSIDE HIGHER ED (Jan. 16, 2018), <https://www.insidehighered.com/news/2018/01/16/ut-austin-rejects-funding-chinese-government-linked-foundation>.

²⁰ See *U.S. finds China aluminum foil imports dumped, subsidized*, REUTERS (Feb. 27, 2018), <https://www.reuters.com/article/us-usa-trade-aluminum/u-s-finds-china-aluminum-foil-imports-dumped-subsidized-idUSKCN1GB2QQ>; Keith Bradsher, *When Solar Panels Became Job Killers*, N.Y. TIMES (Apr. 8, 2017), <https://nyti.ms/2pc5d8P>.

²¹ WHITE HOUSE OTMP REPORT, *supra* note 4, at 6.

²² USTR, 301 CHINA FINDINGS, *supra* note 11, at 19; WHITE HOUSE OTMP REPORT, *supra* note 4, at 6, 10.

²³ See WHITE HOUSE OTMP REPORT, *supra* note 4, at 6-7; Paul Mozur, *New Rules in China Upset Western Tech Companies*, N.Y. TIMES (Jan. 28, 2015), <https://nyti.ms/2oiFdLV>.

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proceedings.”²⁴ Additionally, at least eight times since 2010, China has specifically “committed not to use technology transfer as a condition for market access and to permit technology transfer decisions to be negotiated independently by businesses.”²⁵ However, with the USTR’s recent determination that “China’s technology transfer regime continues, notwithstanding repeated bilateral commitments and government statements,” it is clear that the status quo of previous actions has not been sufficient.²⁶

The pervasive threat of China to the valuable private and public research and development in the U.S. science and technology community must be addressed. The innovative and collaborative qualities and characteristics of U.S. research and technology are foundational to U.S. economic competitiveness. However, it has become evident that these qualities also represent an inherent vulnerability that renders the U.S. a target of foreign adversaries that seek to improperly or illegally gain access to valuable information. Further supporting this, the recent National Security Strategy signed by President Trump, details a stated priority action item to “reduce the illicit appropriation of U.S. public and private sector technology and technical knowledge by hostile foreign competitors.”²⁷ We encourage the USTR to continue its careful examination of China’s policies and practices to ensure that U.S. businesses can remain competitive in the global market. Thank you for your attention to this matter.

Sincerely,



Lamar Smith
Chairman
House Committee on Science,
Space, and Technology



Randy Weber
Chairman
Subcommittee on Energy

cc: The Honorable Eddie Bernice Johnson, Ranking Member, House Committee on Science,
Space, and Technology
The Honorable Marc Veasey, Ranking Member, Energy Subcommittee

²⁴ USTR, 301 CHINA FINDINGS, *supra* note 11, at 6-7.

²⁵ *Id.*

²⁶ *Id.*

²⁷ THE WHITE HOUSE, NATIONAL SECURITY STRATEGY OF THE UNITED STATES OF AMERICA 21 (Dec. 2017), <https://www.whitehouse.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf>.