

**OFFICE *of the* UNITED STATES TRADE REPRESENTATIVE
EXECUTIVE OFFICE OF THE PRESIDENT**

**UPDATE CONCERNING CHINA'S ACTS, POLICIES
AND PRACTICES RELATED TO TECHNOLOGY
TRANSFER, INTELLECTUAL PROPERTY, AND
INNOVATION**



November 20, 2018

Abbreviations and Acronyms

Acronym	Definition
AEI	American Enterprise Institute
AI	artificial intelligence
AmCham	American Chamber of Commerce Shanghai
APT	advanced persistent threat
AR	augmented reality
ASPI	Australian Strategic Policy Institute
BDI	Federation of German Industries
BfV	Germany's Federal Office for the Protection of the Constitution
BGP	Border Gateway Protocol
CCP	Chinese Communist Party
CDB	China Development Bank
CFIUS	Committee on Foreign Investment in the United States
CJV	contractual joint venture
CNY	Chinese yuan
DARPA	Defense Advanced Research Projects Agency
DHS	U.S. Department of Homeland Security
DIUx	Defense Innovation Unit Experimental
DNS	Domain Name System
DOC	U.S. Department of Commerce
DOJ	U.S. Department of Justice
DPA	Defense Production Act of 1950
DSB	Dispute Settlement Body
EJV	equity joint venture
FDI	foreign direct investment
FF	Faraday Future
FIRRMA	Foreign Investment Risk Review Modernization Act of 2018
IC	integrated circuit
ICT	information and communications technology
INTA	European Parliament Committee on International Trade
IP	intellectual property
IPs	Internet Protocol
JV	joint venture
MIIT	Ministry of Industry and Information Technology
MMT	Micron Memory Taiwan Co., Ltd.
MOF	Ministry of Finance of the People's Republic of China
MOFCOM	Ministry of Commerce of the People's Republic of China
MOST	Ministry of Science and Technology of the People's Republic of China
MSP	managed service provider
NDRC	National Development and Reform Commission
NEV	new-energy vehicle
NSA	National Security Agency
NUAA	Nanjing University of Aeronautics and Astronautics
NVCA	National Venture Capital Association
OECD	Organization for Economic Cooperation and Development
OFDI	outbound foreign direct investment

OLED	Organic Light-Emitting Diodes
PEV	pure-electric vehicle
PoP	Points of Presence
SASAC	State-owned Assets Supervision and Administration Commission
SDIC	State Development and Investment Corporation
SEI	strategic and emerging industries
TRIPS	Trade-Related Aspects of Intellectual Property Rights
UMC	United Microelectronics Corporation
USCBC	U.S.-China Business Council
USD	U.S. dollars
VC	venture capital
VR	virtual reality
WFOE	wholly foreign-owned entity
WTO	World Trade Organization
ZDG	Zhongguancun Development Group
ZGC	Zhongguancun

CONTENTS

I.	Overview.....	3
A.	Background	3
B.	China’s Technology Policies Persist.....	7
II.	China Continues Its Unauthorized Intrusions into U.S. Commercial Computer Networks and Cyber-Enabled Theft of Intellectual Property and Sensitive Commercial Information	10
A.	Introduction	10
B.	Rising Incidence of Chinese Cyber-Enabled Theft against the United States	11
1.	The Increasing Frequency of Chinese Cyber-Enabled Theft	11
2.	Continuing Threat to U.S. Companies from China’s APT10.....	12
3.	The Increasing Sophistication of Chinese Cyber-Enabled Theft	13
C.	Major Criminal Indictments of Ongoing Chinese Government Economic Espionage against U.S. Aerospace and High-Technology Companies	13
1.	China’s Campaign to Steal Commercial Aerospace Technology	14
2.	China’s Campaign to Steal Semiconductor Technology from the United States.....	17
D.	China Conducts a Global Espionage Campaign to Obtain Intellectual Property and Sensitive Commercial Information	19
1.	Australia.....	19
2.	Japan	20
3.	The European Union and Member States.....	21
4.	South Korea	21
III.	China’s Unfair Technology Transfer Regime for U.S. Companies in China	22
A.	Introduction	22
B.	U.S. and Foreign Companies and Other U.S. Trading Partners Continue to Share U.S. Concerns	23
1.	Companies	23
2.	Other Trading Partners	24
C.	China Has Made Only Incremental Changes to Foreign Investment Restrictions.....	25
1.	Changes to Foreign Ownership Restrictions	25
2.	The Automotive Sector as an Illustrative Example of China’s Continued Use of Foreign Investment Restrictions	27
IV.	China’s Discriminatory Licensing Restrictions	29
V.	Outbound Investment.....	31
A.	Introduction	31
B.	Actions by the United States and Other Trading Partners to Enhance Investment Review Processes	33
1.	Actions by the United States	33
2.	Actions by Other Trading Partners	33

C.	China’s Outbound Investment Regime	36
1.	Outbound Investment Approvals and Their Influence on Investment Decisions.....	36
2.	Major Policies and State-Backed Actors	39
D.	China Is Increasingly Focusing on Venture Capital Investment.....	40
1.	Trends in Chinese Venture Capital Investment in the United States	40
2.	The Significance of Venture Capital Investment for Technology and Intellectual Property Acquisition	43
3.	Illustrative Examples of Chinese Venture Capital Investments	46
VI.	Conclusion	49
	Appendix A – China’s Foreign Investment Catalogue: Overview of Key Changes in 2018 Version.....	50

I. Overview

A. Background

On August 14, 2017, the President instructed the U.S. Trade Representative to determine under Section 301 of the Trade Act of 1974¹ whether to investigate China's laws, policies, practices, or actions that may be unreasonable or discriminatory and that may be harming American intellectual property rights, innovation, or technology development.² On August 18, 2017, the Office of the U.S. Trade Representative (USTR) initiated a Section 301 investigation of China's acts, policies, and practices related to technology transfer, intellectual property, and innovation.³ On the date of initiation, USTR requested consultations with the Government of China concerning the issues under investigation.⁴ Instead of accepting the request, China's Ministry of Commerce expressed "strong dissatisfaction" with the United States and decried the investigation as "irresponsible" and "not objective."⁵

On March 22, 2018, USTR issued the *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* (the "Section 301 Report").⁶ Based on this report, USTR determined the following Chinese actions are unreasonable or discriminatory and burden or restrict U.S. commerce:

1. China uses foreign ownership restrictions, such as joint venture (JV) requirements and foreign equity limitations, and various administrative review and licensing processes, to require or pressure technology transfer from U.S. companies.
2. China's regime of technology regulations forces U.S. companies seeking to license technologies to Chinese entities to do so on non-market based terms that favor Chinese recipients.

¹ Unless otherwise specified, "Section 301" refers generally to Chapter 1 of Title III of the Trade Act of 1974 (codified as amended in 19 U.S.C. §§ 2411-2417).

² See Addressing China's Laws, Policies, Practices, and Actions Related to Intellectual Property, Innovation, and Technology, 82 Fed. Reg. 39, 007 (Aug. 17, 2017).

³ See Initiation of Section 301 Investigation; Hearing; and Request for Public Comments: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation, 82 Fed. Reg. 40, 213-14 (Aug. 24, 2017).

⁴ See Initiation of Section 301 Investigation; Hearing; and Request for Public Comments: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation, 82 Fed. Reg. 40, 213-14 (Aug. 24, 2017).

⁵ Press Release, Ministry of Commerce, The People's Republic of China, MOFCOM Spokesman Comments on the 301 Investigation of the US against China (Aug. 23, 2018), <http://english.mofcom.gov.cn/article/newsrelease/policyreleasing/201708/20170802631394.shtml>.

⁶ OFFICE OF THE U.S. 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 (Mar. 22, 2018), <https://ustr.gov/sites/default/files/Section%20301%20FINAL.PDF>.

3. China directs and unfairly facilitates the systematic investment in, and acquisition of, U.S. companies and assets by Chinese companies to obtain cutting-edge technologies and intellectual property and generate the transfer of technology to Chinese companies.
4. China conducts and supports unauthorized intrusions into, and theft from, the computer networks of U.S. companies to access their sensitive commercial information and trade secrets.⁷

After USTR issued the Section 301 Report, the United States continued to engage China to resolve the unfair trade acts, policies, and practices included in the investigation. A cabinet-level U.S. delegation traveled to Beijing on May 4, 2018, to discuss a range of bilateral economic issues, including China's policies addressed in the Section 301 Report.⁸ This high-level engagement continued on May 17, 2018, when senior administration officials hosted a trade delegation from China in Washington, D.C.⁹ Another high-level U.S. delegation met with its Chinese counterparts in Beijing on June 2 and 3, 2018 for additional discussions on trade and other issues.¹⁰ Each of these meetings gave China an opportunity to address U.S. concerns – but China failed to do so adequately.

The United States has also worked closely with the European Union (EU) and Japan, who share many of the concerns expressed by the United States regarding China's acts, policies, and practices related to technology transfer, intellectual property, and innovation.

- At the conclusion of trilateral meetings held in May 2018, the trade ministers of the United States, Japan, and the EU (the “Ministers”) “confirmed their shared view that no country should require or pressure technology transfer from foreign companies to domestic companies, including, for example, through the use of JV requirements, foreign equity limitations, administrative review and licensing processes, or other means.”¹¹
- At the conclusion of trilateral meetings held in September 2018, the Ministers “further recalled their shared view that no country should require or pressure technology transfer from foreign companies to domestic companies, including, for example, through the use of JV requirements, foreign equity limitations, administrative review and licensing

⁷ See Notice of Determination and Request for Public Comment Concerning Proposed Determination of Action Pursuant to Section 301: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation, 83 Fed. Reg. 14, 906-09 (Apr. 6, 2018).

⁸ Press Release, The White House, Statement of the United States Trade Delegation's Visit to Beijing (May 4, 2018), <https://www.whitehouse.gov/briefings-statements/statement-united-states-trade-delegations-visit-beijing/>.

⁹ Press Release, The White House, Trump Administration Officials to Host Trade Delegation from China (May 16, 2018), <https://www.whitehouse.gov/briefings-statements/trump-administration-officials-host-trade-delegation-china/>.

¹⁰ Press Release, U.S. Embassy and Consulates in China, Readout of Discussions between Administration Officials and a Delegation from China Regarding the Trade Relationship between the United States and China (June 5, 2018), <https://china.usembassy-china.org.cn/readout-of-discussions-between-administration-officials-and-a-delegation-from-china-regarding-the-trade-relationship/>.

¹¹ Press Release, Office of the U.S. Trade Representative, Joint Statement on Trilateral Meeting of the Trade Ministers of the United States, Japan, and the European Union (May 31, 2018), <https://ustr.gov/about-us/policy-offices/press-office/press-releases/2018/may/joint-statement-trilateral-meeting>.

processes, or other means. The Ministers found such practices to be deplorable.”¹² The Ministers also “affirmed their commitment to effective means to stop harmful forced technology transfer policies and practices, and to this end, deepen discussions on enforcement and rule-making as tools to address these problems.”¹³

Despite repeated U.S. engagement efforts and international admonishments of its trade technology transfer policies, China did not respond constructively and failed to take any substantive actions to address U.S. concerns.

As a result of China’s ongoing failure to respond constructively to U.S. concerns, USTR imposed tariffs on July 6, 2018 and August 23, 2018 on approximately \$50 billion of Chinese imports as part of the U.S. response to China’s unfair trade practices related to the forced transfer of American technology and intellectual property.¹⁴ The United States also requested dispute settlement consultations with China in the World Trade Organization (WTO) on March 23, 2018 concerning certain measures pertaining to the licensing of intellectual property rights, and the United States is now pursuing dispute settlement before the WTO on those issues.¹⁵

China, however, made clear – both in public statements and in government-to-government communications – that it would not change its policies in response to the initial Section 301 action.¹⁶ Indeed, China largely denied there were problems with respect to its policies involving technology transfer and intellectual property.¹⁷ The Information Office of China’s State Council issued a 71-page “White Paper” in September 2018 that dismissed the Section 301

¹² Press Release, Office of the U.S. Trade Representative, Joint Statement on Trilateral Meeting of the Trade Ministers of the United States, Japan, and the European Union (Sep. 25, 2018), <https://ustr.gov/about-us/policy-offices/press-office/press-releases/2018/september/joint-statement-trilateral>.

¹³ Press Release, Office of the U.S. Trade Representative, Joint Statement on Trilateral Meeting of the Trade Ministers of the United States, Japan, and the European Union (Sep. 25, 2018).

¹⁴ See Notice of Action and Request for Public Comment Concerning Proposed Determination of Action Pursuant to Section 301: China’s Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation, 83 Fed. Reg. 28710 (June 20, 2018); Notice of Action Pursuant to Section 301: China’s Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation, 83 Fed. Reg. 40823 (Aug. 16, 2018).

¹⁵ Press Release, Office of the U.S. Trade Representative, Following President Trump’s Section 301 Decisions, USTR Launches New WTO Challenge Against China (Mar. 23, 2018), <https://ustr.gov/about-us/policy-offices/press-office/press-releases/2018/march/following-president-trump%E2%80%99s-section>. See also Request for Consultations by the United States, *China — Certain Measures Concerning the Protection of Intellectual Property Rights*, WTO Doc. WT/DS542/1 (Mar. 26, 2018), https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds542_e.htm.

¹⁶ See, e.g., Press Release, Ministry of Commerce, The People’s Republic of China, Statement by the Ministry of Commerce [Regarding the Statement by the Office of the U.S. Trade Representative on Section 301 Action] (July 12, 2018), <http://english.mofcom.gov.cn/article/newsrelease/significantnews/201807/20180702765653.shtml>.

¹⁷ See Press Release, Ministry of Commerce, The People’s Republic of China, Statement by the Ministry of Commerce [Regarding the Statement by the U.S. Trade Representative on Section 301 Action] (July 12, 2018); Press Release, Ministry of Commerce, The People’s Republic of China, The Office of the USTR Notes on 23rd That It Will Hold Hearings on Imposing Tariffs of \$16 Billion on Chinese Imports on 24th and 25th. What’s MOFCOM’s Comment? (July 27, 2018), <http://english.mofcom.gov.cn/article/pressconferencehomepage/foreigntrade/201808/20180802772812.shtml>.

investigation's findings and denounced U.S. actions as "trade bullying."¹⁸ Furthermore, China responded to the U.S. action by attempting to cause further harm to the U.S. economy, by increasing duties on certain U.S. exports to China.¹⁹

These actions demonstrated that USTR's initial tariff action was no longer appropriate to obtain the elimination of China's unfair trade acts, policies, and practices. In addition, the burden or restriction on United States commerce of these acts, policies, and practices continues to increase, including following the one-year investigation period. Accordingly, under direction of the President, USTR imposed additional tariffs on approximately \$200 billion of imports from China on September 24, 2018.²⁰

USTR has undertaken this update as part of its ongoing monitoring and enforcement effort. In preparing this update, USTR has relied upon publicly available material, and has consulted with other government agencies. As detailed in this update, China fundamentally has not altered its acts, policies, and practices related to technology transfer, intellectual property, and innovation, and indeed appears to have taken further unreasonable actions in recent months.

- Section II describes how China continues its policy and practice of conducting and supporting cyber-enabled theft and intrusions into the commercial networks of U.S. companies and those of other countries, as well as other means by which China attempts illegally to obtain information. This conduct provides the Chinese government with unauthorized access to intellectual property, including trade secrets, or confidential business information, as well as technical data, negotiating positions, and sensitive and proprietary internal business communications.
- Section III describes how, despite the relaxation of some foreign ownership restrictions and certain other incremental changes in 2018, the Chinese government has persisted in using foreign investment restrictions to require or pressure the transfer of technology from U.S. companies to Chinese entities. Numerous foreign companies and other trading partners share U.S. concerns regarding China's technology transfer regime.
- Section IV describes China's discriminatory licensing restrictions and how the United States has requested consultations and is pursuing dispute settlement under the WTO in

¹⁸ Press Release, Information Office of the State Council, The People's Republic of China, The Facts and China's Position on China-US Trade Friction (Sep. 2018), http://english.gov.cn/archive/white_paper/2018/09/26/content_281476319220196.htm.

¹⁹ *State Council Customs Tariff Commission Public Notice on Additionally Imposing Tariffs on \$50 Billion of Imported Products Originating from the United States* (State Council Customs Tariff Commission, 2018 Public Notice No. 5, issued June 16, 2018); *State Council Customs Tariff Commission Public Notice on Additionally Imposing Tariffs on Certain Imported Products (Batch 2) Originating from the United States* (State Council Customs Tariff Commission, 2018 Public Notice No. 6, issued Aug. 3, 2018); *State Council Customs Tariff Commission Public Notice on Additionally Imposing Tariffs on \$16 Billion of Imported Products Originating from the United States* (State Council Customs Tariff Commission, 2018 Public Notice No. 7, issued Aug. 8, 2018); *State Council Customs Tariff Commission Public Notice on the Implementation of Additionally Imposing Tariffs on Approximately \$60 Billion of Imported Products Originating from the United States* (State Council Customs Tariff Commission, 2018 Public Notice No. 8, issued Sep. 18, 2018, effective Sep. 24, 2018).

²⁰ See Notice of Modification of Section 301 Action: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation, 83 Fed. Reg. 47974 (Sep. 21, 2018).

China – Certain Measures Concerning the Protection of Intellectual Property Rights (WT/DS542). China continues to maintain these discriminatory licensing restrictions.

- Section V describes how, despite an apparent aggregate decline in Chinese outbound investment in the United States in 2018, the Chinese government continues to direct and unfairly facilitate the systematic investment in, and acquisition of, U.S. companies and assets by Chinese entities, to obtain cutting-edge technologies and intellectual property and generate large-scale technology transfer in industries deemed important by state industrial plans. Chinese outbound investment is increasingly focused on venture capital (VC) investment in U.S. technology centers such as Silicon Valley, with Chinese VC investment reaching record levels in 2018.

B. China's Technology Policies Persist

As detailed in the introduction to the Section 301 Report, official publications of the Chinese government and the Chinese Communist Party (CCP) set out China's ambitious technology-related industrial policies. These policies are driven in large part by China's goals of dominating its domestic market and becoming a global leader in a wide range of technologies, especially advanced technologies. The most prominent industrial policy is "Made in China 2025," initiated in 2015.²¹ Industrial sectors that contribute to or benefit from the "Made in China 2025" industrial policy include aerospace, information and communications technology, robotics, industrial machinery, new materials, and automobiles.²²

In the period following the publication of the Section 301 Report, China has deliberately downplayed the importance of and reduced official media attention on the Made in China 2025 policy. In late June, China's Internet Propaganda Ministry reportedly circulated a *Propaganda Oral Notice* directing media outlets to "not make further use of 'Made in China 2025,' or there will be consequences."²³ Also in late June, the Hong Kong paper *South China Morning Post* asked Wang Xinzhe, chief economist at China's Ministry of Industry and Information

²¹ *Notice on Issuing "Made in China 2025"* (State Council, Guo Fa [2015] No. 28, issued May 8, 2015).

²² These policies are also described in DEPARTMENT OF DEFENSE, REPORT TO PRESIDENT DONALD J. TRUMP BY THE INTERAGENCY TASK FORCE IN FULFILLMENT OF EXECUTIVE ORDER 13806, ASSESSING AND STRENGTHENING THE MANUFACTURING AND DEFENSE INDUSTRIAL BASE AND SUPPLY CHAIN RESILIENCY OF THE UNITED STATES 8-9 (Sep. 2018), <https://media.defense.gov/2018/Oct/05/2002048904/-1/-1/1/ASSESSING-AND-STRENGTHENING-THE-MANUFACTURING-AND%20DEFENSE-INDUSTRIAL-BASE-AND-SUPPLY-CHAIN-RESILIENCY.PDF>.

²³ *Minitrue: On U.S.-China Trade Tensions*, CHINA DIGITAL TIMES, <https://chinadigitaltimes.net/2018/06/minitrue-on-u-s-china-trade-tensions/> (last visited Nov. 15, 2018). See also Raymond Zhong and Li Yuan, *As Trade Fight Looms, China Turns Censors on Its Own Policies*, N.Y. TIMES, June 26, 2018, <https://www.nytimes.com/2018/06/26/business/china-trade-censorship.html> (stating that "As Washington and Beijing spar over trade, news outlets here have been ordered not to mention Made in China 2025, an industrial master plan that aims to turn the country into a high-tech superpower, according to two people at Chinese news organizations who spoke on the condition of anonymity to discuss the censorship authorities' secretive workings."). See also Sidney Leng and Zheng Yangpeng, *Beijing Tries to Play Down "Made in China 2025" as Donald Trump Escalates Trade Hostilities*, SOUTH CHINA MORNING POST, June 26, 2018, <https://www.scmp.com/news/china/policies-politics/article/2152422/beijing-tries-play-down-made-china-2025-donald-trump>.

Technology (MIIT), whether the Chinese government “would withhold or adjust” the Made in China 2025 policy.²⁴ In his response, Mr. Wang made no mention at all of the policy, stating only that “the ministry was following guidelines” set during the CCP’s 2017 national congress regarding “upgrading the manufacturing industry.”²⁵

In addition, the May 2018 project guide²⁶ for China’s Industrial Transformation and Upgrading Fund – a government fund that provides financing to technology-related programs in sectors linked to Made in China 2025²⁷ – no longer references the industrial policy by name, even though it still targets the same high-technology industries.²⁸ (Made in China 2025 featured prominently in the fund’s administrative measure, issued in December 2016, and its 2017 project guide published in August 2017.²⁹)

Despite this transparent attempt to deemphasize Made in China 2025 in public, China continues to implement this industrial policy on a large scale. In February 2018, the National Strategic Advisory Committee on Building a Powerful Manufacturing Nation published the *Made in China 2025 Key Area Technology and Innovation Greenbook – Technology Roadmap (2017)* (“2017 Roadmap”),³⁰ which updates and replaces the 2015 *Made in China 2025 Key Area Technology Roadmap* (“2015 Roadmap”)³¹ discussed in the Section 301 Report. The updated document again sets explicit market share and other targets to be filled by Chinese producers

²⁴ Sidney Leng and Zheng Yangpeng, *Beijing Tries to Play Down “Made in China 2025” as Donald Trump Escalates Trade Hostilities*, SOUTH CHINA MORNING POST, June 26, 2018. See also a November 2018 opinion piece in the state-affiliated *Global Times* newspaper, confirming that Made in China 2025 “gradually disappeared from Chinese official documents and media” following U.S. Section 301 actions, and suggesting that this was an intentional action by China to avoid “inciting the behavior” of the United States. *Editorial: Facing Up to the U.S.-China Battle over High-Technology, We’d Like to Say This* [Chinese], GLOBAL TIMES, Nov. 9, 2018, <https://m.huanqiu.com/r/MV8wXzEzNTAwODg0XzI4Ml8xNTQxNzU1MjYw>.

²⁵ Sidney Leng and Zheng Yangpeng, *Beijing Tries to Play Down “Made in China 2025” as Donald Trump Escalates Trade Hostilities*, SOUTH CHINA MORNING POST, June 26, 2018.

²⁶ Ministry of Industry and Information Technology General Office and Ministry of Finance General Office Notice on Issuing the 2018 Industrial Transformation and Upgrading Fund Work Guidance (MIIT and Ministry of Finance (MOF), Gong Xin Ting Lian Gui [2018] No. 36, issued May 24, 2018).

²⁷ See, e.g., smart manufacturing programs (administered pursuant to the Ministry of Finance Notice on Distributing the 2016 Industrial Transformation and Upgrading (Made in China 2025) Fund Support for Smart Manufacturing Integrated Standardization and New Model Use Projects (MOF, Cai Jian [2016] No. 351, issued June 16, 2016)); industrial strong base programs (administered pursuant to the Ministry of Finance Notice on Distributing the 2016 Industrial Transformation and Upgrading (Made in China 2025) Fund Support for Strong Industrial Base Projects (MOF, Cai Jian [2016] No. 355, June 16, 2016)), and the first introduction of major technology equipment programs (administered pursuant to the Ministry of Finance Notice on Distributing the 2016 Industrial Transformation and Upgrading (Made in China 2025) Fund Support for Smart Manufacturing Integrated Standardization and New Model Use Projects (MOF, Cai Jian [2016] No. 351, issued June 16, 2016)).

²⁸ The 2018 project guide goes so far as to delete the words “Made in China 2025” from the title of the Ministry of Finance and Ministry of Industry and Information Technology Notice on Issuing “Measures on the Administration of the Industrial Transformation and Upgrading (Made in China 2025) Fund”, the measure pursuant to which the fund operates.

²⁹ Notice on Issuing the 2017 Industrial Transformation and Upgrading (Made in China 2025) Grant (Department Budget Project Guidance) (MIIT, Gong Xin Bu Gui Han [2017] No. 351, issued Aug. 21, 2017).

³⁰ *Made in China 2025 Key Area Technology and Innovation Greenbook – Technology Roadmap (2017)* (National Strategic Advisory Committee on Building a Strong Manufacturing Nation, issued Feb. 2018).

³¹ *Made in China 2025 Key Area Technology Roadmap* (National Strategic Advisory Committee on Building a Powerful Manufacturing Nation, issued Oct. 10, 2015).

both domestically and globally in dozens of high-technology industries. For example, the *2017 Roadmap* calls for “indigenous new energy vehicle annual production” to have a “supplying capacity that can satisfy *more than 80%* of the market” by 2020, up from a 70% target set in the *2015 Roadmap*.

References in a litany of national and subnational normative documents, such as 13th five-year sectoral plans (2016-2020), as well as their implementing measures, confirm the continuing importance of Made in China 2025 and China’s persistent pursuit of its goals.³²

China also appears to have reinvigorated the “Strategic Emerging Industries” policy, a high-technology industrial policy started in 2010.³³ (This policy was also addressed in the Section 301 Report.) China issued a draft for comment in September 2018 of the latest version of the *Strategic Emerging Industry Development Key Product and Service Catalogue* (“*SEI Catalogue*”).³⁴ As shown in **Table 1**, sectors covered in the catalogue illustrate a high degree of overlap with Made in China 2025.

Table 1 – Comparison of the Sectors Targeted by the 2018 SEI Catalogue and the Made in China 2025 2017 Roadmap

Topic	SEI Catalogue	2017 Roadmap
New Generation Information Technology Industry	Chapter 1	Chapter 1
High End Equipment Manufacturing Industry	Chapter 2	Chapter 2
New Materials Industry	Chapter 3	Chapter 9
Biotech Industry	Chapter 4	Chapter 10
New Energy Vehicle Industry	Chapter 5	Chapter 6
New Energy Industry	Chapter 6	Chapter 7
Creative Data Industry	Chapter 8	Chapter 1

In March 2018, a new agreement was signed by the National Development and Reform Commission (NDRC) and the Export-Import Bank of China to provide financial products worth

³² Chapter 22 of the *13th Five-year National Economic and Social Development Plan Outline* (adopted by the National People’s Congress on Mar. 16, 2016) is dedicated to the Made in China 2025 policy. See also, e.g., *Ministry of Industry and Information Technology General Office Notice on the MIC2025 Province and City Guide (2017)* (MIIT, Gong Xin Ting Gui [2017] No. 41, Apr. 13, 2017) and *General Office of the National Building a Strong Manufacturing Nation Leading Small Group Notice on Issuing the MIC2025 National Level Demonstration Zone Evaluation Guidebook (Interim)* (General Office of the National Building a Strong Manufacturing Nation Leading Small Group, Gong Xin Ting Gui [2018] No. 14, issued Jan. 24, 2018, effective Feb. 12, 2018).

³³ *Decision on Accelerating the Cultivation and Development of Strategic Emerging Industries* (State Council, Guo Fa [2010] No. 32, issued Oct. 10, 2010).

³⁴ *Announcement on Request for Opinions on Amending the Strategic Emerging Industry Development Key Product and Service Catalogue (2016 Edition)* (Strategic Emerging Industries Development Interagency Committee Office, issued Sep. 21, 2018).

CNY 800 billion (\$122 billion)³⁵ to companies in Strategic Emerging Industries.³⁶ China has also enhanced fiscal supports specific to Strategic Emerging Industries for fiscal-year 2018.³⁷

II. China Continues Its Unauthorized Intrusions into U.S. Commercial Computer Networks and Cyber-Enabled Theft of Intellectual Property and Sensitive Commercial Information

A. Introduction

China shows no sign of ceasing its policy and practice of conducting and supporting cyber-enabled theft and intrusions into the commercial networks of U.S. companies. This illicit conduct provides the Chinese government with unauthorized access to intellectual property, trade secrets, confidential business information, technical data, negotiating positions, and sensitive and proprietary internal business communications.

The White House National Cyber Strategy, published in September 2018, concluded that “China engaged in cyber-enabled economic espionage and trillions of dollars of intellectual property theft.”³⁸ The White House Office of Trade and Manufacturing Policy also noted China’s prevalent use of cyber-enabled theft (as well as physical theft) in acquiring technologies and intellectual property in strategic sectors.³⁹ As the next section demonstrates, China’s cyber-enabled theft against the United States has increased in frequency and sophistication since the March 2018 issuance of USTR’s findings.

³⁵ Unless citing to a value given by source in footnote, currency conversions are based on the U.S. Federal Reserve’s average annual exchange rate for the year in reference for 2015-2017, and based on the average of the daily exchange rates from Jan. 1, 2018 to Nov. 2, 2018. For 2015-2017 rates, see U.S. FEDERAL RESERVE, FOREIGN EXCHANGE RATES - G.5A, (Jan. 11, 2018), <https://www.federalreserve.gov/releases/g5a/current/default.htm>; for 2018 daily average rates, see U.S. FEDERAL RESERVE, HISTORICAL RATES FOR THE CHINESE YUAN RENMINBI (Nov. 5, 2018), https://www.federalreserve.gov/releases/h10/Hist/dat00_ch.htm.

³⁶ Press Release, National Development and Reform Commission, The People’s Republic of China, National Development and Reform Commission and Export-Import Bank of China Sign Cooperative Agreement to Support Strategic Emerging Industry Development [Chinese] (Mar. 23, 2018), http://www.ndrc.gov.cn/tpxw/201803/t20180323_880112.html.

³⁷ China’s official budget documents show that in fiscal years 2016 and 2017, fiscal funding for Strategic Emerging Industries was administered through the “Strategic Emerging Industry Special Fund.” In 2018, funding shifted to the “Strategic Emerging Industry Major Contracts” and “Strategic Emerging Industry Venture Investment Guiding Fund,” with allocations exceeding those under the previous “Strategic Emerging Industry Special Fund.” Official budget information is available on the MOF website, <http://yss.mof.gov.cn/2017zyys/> and <http://yss.mof.gov.cn/2018zyys/>.

³⁸ THE WHITE HOUSE, NATIONAL CYBER STRATEGY OF THE UNITED STATES OF AMERICA (Sep. 2018), <https://www.whitehouse.gov/wp-content/uploads/2018/09/National-Cyber-Strategy.pdf>.

³⁹ THE 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), at 2-4, <https://www.whitehouse.gov/wp-content/uploads/2018/06/FINAL-China-Technology-Report-6.18.18-PDF.pdf>.

B. Rising Incidence of Chinese Cyber-Enabled Theft against the United States

1. The Increasing Frequency of Chinese Cyber-Enabled Theft

According to a June 2018 report, cybersecurity firms have observed, in the period from mid-2017 through mid-2018, what appear to be Chinese state-sponsored entities attacking firms in cloud computing, Internet of Things, artificial intelligence, biomedicines, civilian space, alternative energy, robotics, rail, agricultural machinery, and high-end medical devices sectors.⁴⁰ One cybersecurity firm, CrowdStrike, observed that Chinese state hacking is gaining in pace and volume, while another, FireEye/Mandiant, similarly stated that previously inactive Chinese hacking groups had now been reactivated.⁴¹ In November 2018, cybersecurity firm Carbon Black found a sharp rise in the third quarter of 2018 “in attacks against manufacturing companies—a type of attack that has been frequently tied to Chinese economic espionage.”⁴² It also found that 68% of incident response professionals surveyed during the preceding three months assessed that China was the source of the observable cyberattacks, more than any other country.⁴³

In August 2018, cybersecurity firm Recorded Future found a series of cyberattacks around late May 2018 originating from IP addresses linked to Tsinghua University.⁴⁴ The attackers in question appeared to be conducting surveillance on organizations related to the governor of Alaska’s trade delegation trip to China, and were focused on oil and gas industry information.⁴⁵

⁴⁰ China Backed Off from Hacking U.S. Companies. Now It Is at It Again, MCCLATCHY (June 7, 2018), <https://www.mcclatchydc.com/news/nation-world/national/national-security/article212666139.html>. See also *M-Trends 2018*, MANDIANT (A FIREEYE COMPANY) (2018), at 49, <https://www.fireeye.com/content/dam/collateral/en/mtrends-2018.pdf>. (In its April 2018 review of the prior year, FireEye/Mandiant observed increased theft of sensitive business information like pricing data, contracts, and acquisitions. It also noted a concerted campaign to attack companies with businesses in cloud computing and telecommunications, which could be used as a more surreptitious means of gaining information on their clients.)

⁴¹ China Backed Off from Hacking U.S. Companies. Now It Is at It Again, MCCLATCHY (June 7, 2018). See also *China Is a Bigger Cyber Threat than Russia* (Fox News television broadcast Sep. 18, 2018), <https://video.foxbusiness.com/v/5836552451001/?#sp=show-clips> (In a separate televised interview, Crowdstrike’s Chief Technology Officer noted, “in light of the trade conflict we are engaged with [China] right now [...] companies all over the United States are suffering major breaches from Chinese actors, primarily [enacted by] their ministry of state security.” He also stated: “We’re seeing a huge pickup in activity, it’s really been continuing for the last year and a half, but increasing over time, and every major sector of the economy is being targeted.”).

⁴² Sean Gallagher, *New Data Shows China Has “Taken the Gloves Off” in Hacking Attacks on US*, ARSTECHNICA, Nov. 1, 2018, <https://arstechnica.com/information-technology/2018/11/new-data-shows-china-has-taken-the-gloves-off-in-hacking-attacks-on-us/>.

⁴³ *Destructive Cyberattacks Increase Ahead of 2018 Midterm Elections, Quarterly Incident Response Threat Report*, CARBON BLACK (Nov. 2018), at 4, <https://www.carbonblack.com/quarterly-incident-response-threat-report/november-2018/>.

⁴⁴ Sanil Chohan, Winona DeSombre, and Justin Grosfelt, *Chinese Cyberespionage Originating from Tsinghua University Infrastructure*, CTA-2018-0816, RECORDED FUTURE BLOG (Aug. 16, 2018), at 1, <https://www.recordedfuture.com/chinese-cyberespionage-operations/>. Tsinghua University is a major Chinese university with close ties to the government and Chinese Communist Party leadership. See *Chinese Communist Party Organization Department Appointment to Tsinghua University Dean Incites Controversy* [Chinese], BBC, Mar. 26, 2015, https://www.bbc.com/zhongwen/simp/china/2015/03/150326_tsinghua_uni_headmaster.

⁴⁵ Sanil Chohan, Winona DeSombre, and Justin Grosfelt, *Chinese Cyberespionage Originating from Tsinghua University Infrastructure*, CTA-2018-0816, RECORDED FUTURE (Aug. 16, 2018), at 7.

In October 2018, experts affiliated with the U.S. Naval War College and Tel Aviv University published a study finding that China Telecom, one of China's three major state-owned telecoms enterprises, may be using Points of Presence (PoP) servers to hijack internet traffic and direct it through Mainland Chinese servers for possible collection and analysis.⁴⁶ According to these experts, China Telecom maintains PoP control in ten locations in North America, which it has used to hijack internet traffic in the United States and Canada and divert it through China where it could be copied.⁴⁷ These acts by a Chinese entity suggest, in these experts' words, "malicious intent, precisely because of their unusual transit characteristics" of routing traffic through abnormally long paths that always go through China.⁴⁸

Assessments in the U.S. law enforcement and intelligence community dovetail with industry views. On November 1, 2018, Department of Justice Attorney General Jeff Sessions, announcing a new initiative to combat Chinese economic espionage, stated, "In 2015, China committed publicly that it would not target American companies for economic gain. Obviously, that commitment has not been kept."⁴⁹ In November 2018, Robert Joyce, senior advisor for cybersecurity at the National Security Agency, said that over the last year, the U.S. government has seen a resurgence of hacking and intellectual property theft attempts by people based in China and sometimes even by the Beijing government.⁵⁰

2. Continuing Threat to U.S. Companies from China's APT10

Information obtained from the ongoing monitoring of APT10 by the U.S. Department of Homeland Security (DHS) has also indicated a rising incidence of Chinese cyber-enabled theft. As noted in USTR's original findings, several cybersecurity firms believe APT10 is a Chinese cyber-espionage group that conducted a campaign of intrusions against several major IT managed service providers, including some U.S. companies.⁵¹ APT10 targets industries that

⁴⁶ Chris C. Demchak and Yuval Shavitt, *China's Maxim – Leave No Access Point Unexploited: The Hidden Story of China Telecom's BGP Hijacking*, 3(1) MILITARY CYBER AFFAIRS (2018), <https://scholarcommons.usf.edu/mca/vol3/iss1/7/>.

⁴⁷ Chris C. Demchak and Yuval Shavitt, *China's Maxim – Leave No Access Point Unexploited: The Hidden Story of China Telecom's BGP Hijacking*, 3(1) MILITARY CYBER AFFAIRS 5-8 (2018).

⁴⁸ Chris C. Demchak and Yuval Shavitt, *China's Maxim – Leave No Access Point Unexploited: The Hidden Story of China Telecom's BGP Hijacking*, 3(1) MILITARY CYBER AFFAIRS 5-8 (2018). See also *National Security Law of the People's Republic of China* (adopted by the National People's Congress on July 1, 2015, effective July 1, 2015) (providing at Article 11 that "All citizens of the People's Republic of China, state authorities, armed forces, political parties, people's groups, enterprises, public institutions, and other social organizations shall have the responsibility and obligation to maintain national security," and at Article 77, that "[citizens and organizations] shall provide necessary support and assistance to national security authorities, public security authorities, and the relevant military authorities.").

⁴⁹ Press Release, U.S. Department of Justice, Attorney General Jeff Sessions Announces New Initiative to Combat Chinese Economic Espionage – Remarks as Prepared for Delivery (Nov. 1, 2018), <https://www.justice.gov/opa/speech/attorney-general-jeff-sessions-announces-new-initiative-combat-chinese-economic-espionage>.

⁵⁰ Alyza Sebenius and Nico Grant, *China Violating Cyber Agreement With U.S., NSA Official Says*, BLOOMBERG, Nov. 8, 2018, <https://www.bloomberg.com/news/articles/2018-11-08/china-violating-cyber-agreement-with-u-s-nsa-official-says>.

⁵¹ See Section V.B.4 of the Section 301 Report.

align with China's technology policies for the 13th five-year planning period (2016-2020), to provide valuable information for advancing domestic innovation goals.⁵² Cybersecurity firm FireEye views APT10's activities in many instances as supporting the theft of confidential commercial information to support Chinese firms.⁵³ In October 2018, DHS issued a new alert concerning "ongoing APT actor activity attempting to infiltrate the networks of global managed service providers (MSPs)" (October 2018 Alert).⁵⁴ The activity observed by DHS aligns with activity that cybersecurity firms have attributed to APT actors.⁵⁵ This alert followed a prior one concerning APT10 issued in April 2017.⁵⁶

3. The Increasing Sophistication of Chinese Cyber-Enabled Theft

China's cyber-enabled theft of intellectual property and sensitive commercial information exhibits increasing sophistication. According to cybersecurity experts quoted in a June 2018 report, China's state-supported hackers have developed new ways of concealing their attacks.⁵⁷ In particular, hackers appear to be using generic "tools" that leave little if any unique traces, making attribution more difficult.⁵⁸ In its November 2018 assessment, Carbon Black found that Chinese state actors had improved their methods of infiltration and concealment.⁵⁹

C. Major Criminal Indictments of Ongoing Chinese Government Economic Espionage against U.S. Aerospace and High-Technology Companies

Since the publication of USTR's Section 301 Report, the Department of Justice (DOJ) has indicted a dozen individuals and corporate entities directed by the Chinese government to obtain commercial secrets from 15 companies, predominantly in aerospace and high-technology sectors. The facts alleged in these indictments reflect China's ongoing determination to obtain trade secrets and other valuable commercial information in support of China's industrial policy.

⁵² See Section V.B.4 of the Section 301 Report.

⁵³ See Section V.B.4 of the Section 301 Report.

⁵⁴ Press Release, United States Computer Emergency Readiness Team, Alert (TA18-276B): Advanced Persistent Threat Activity Exploiting Managed Service Providers (Oct. 3, 2018), <https://www.us-cert.gov/ncas/alerts/TA18-276B>.

⁵⁵ Ionus Arghire, *DHS Warns of Attacks on Managed Service Providers*, SECURITY WEEK (Oct. 4, 2018), <https://www.securityweek.com/dhs-warns-attacks-managed-service-providers>; Christopher Bing, *U.S. Warns of New Hacking Spree from Group Linked to China*, REUTERS, Oct. 3, 2018, <https://www.reuters.com/article/us-usa-cyber-china/u-s-warns-of-new-hacking-spree-from-group-linked-to-china-idUSKCN1ME01L>.

⁵⁶ Press Release, United States Computer Emergency Readiness Team, Alert (TA17-117A) – Intrusions Affecting Multiple Victims across Multiple Sectors (original release date Apr. 27, 2017, last revised Oct. 3, 2018), <https://www.us-cert.gov/ncas/alerts/TA17-117A> (last visited Nov. 19, 2018).

⁵⁷ *China Backed Off from Hacking U.S. Companies. Now It Is at It Again*, MCCLATCHY (June 7, 2018).

⁵⁸ *China Backed Off from Hacking U.S. Companies. Now It Is at It Again*, MCCLATCHY (June 7, 2018).

⁵⁹ *Quarterly Incident Response Threat Report, Destructive Cyberattacks Increase Ahead of 2018 Midterm Elections*, CARBON BLACK (Nov. 2018), at 13, <https://www.carbonblack.com/quarterly-incident-response-threat-report/november-2018/>.

1. China's Campaign to Steal Commercial Aerospace Technology

a) Cyberintrusion and Cybertheft

On October 30, 2018, the DOJ announced indictments against two Chinese intelligence officers, six of their paid hackers, and two Chinese intelligence agents placed in a French aerospace company.⁶⁰ Over at least a five-year period, the Chinese intelligence officers directed the hackers and agents to “facilitate intrusions into computers of companies based in the United States and abroad” for the purpose of stealing intellectual property and confidential business information in the aerospace and other high-technology industries.⁶¹ The indictment identifies 13 victim companies, including aerospace companies in Massachusetts,⁶² Arizona,⁶³ Oregon,⁶⁴ Wisconsin,⁶⁵ California,⁶⁶ as well as companies from the United Kingdom,⁶⁷ France,⁶⁸ and Australia.⁶⁹

The indictment states that Chinese intelligence targeted, among other things, data and information related to a turbofan engine used in commercial jetliners.⁷⁰ At the time of the intrusions, a Chinese state-owned aerospace company sought to develop its own engine for use in commercial aircraft manufactured in China and elsewhere.⁷¹ The turbofan engine targeted by members of the conspiracy was being developed through a partnership between a French aerospace company and an aerospace company based in the United States.⁷²

According to the indictment, Chinese intelligence and hackers operating at their direction used tactics such as spear phishing,⁷³ malware,⁷⁴ doppelganger domain names,⁷⁵ dynamic domain name service (DNS) accounts to register multiple domain names and frequently change the associated Internet Protocol address,⁷⁶ domain hijacking, watering hole attacks,⁷⁷ and co-opting

⁶⁰ Press Release, U.S. Department of Justice, Chinese Intelligence Officers and Their Recruited Hackers and Insiders Conspired to Steal Sensitive Commercial Aviation and Technological Data for Years (Oct. 30, 2018), <https://www.justice.gov/opa/pr/chinese-intelligence-officers-and-their-recruited-hackers-and-insiders-conspired-steal>.

⁶¹ Indictment, *United States v. Zhang et al.*, No. 13CR3132-H (S.D. Cal. Oct. 25, 2018) (hereinafter “*United States v. Zhang et al.*”), at 2.

⁶² *United States v. Zhang et al.*, at 5.

⁶³ *United States v. Zhang et al.*, at 6.

⁶⁴ *United States v. Zhang et al.*, at 6.

⁶⁵ *United States v. Zhang et al.*, at 6.

⁶⁶ *United States v. Zhang et al.*, at 6.

⁶⁷ *United States v. Zhang et al.*, at 5.

⁶⁸ *United States v. Zhang et al.*, at 6.

⁶⁹ *United States v. Zhang et al.*, at 6.

⁷⁰ *United States v. Zhang et al.*, at 6.

⁷¹ *United States v. Zhang et al.*, at 6.

⁷² *United States v. Zhang et al.*, at 6.

⁷³ *United States v. Zhang et al.*, at 8.

⁷⁴ *United States v. Zhang et al.*, at 8-9.

⁷⁵ *United States v. Zhang et al.*, at 8-9.

⁷⁶ *United States v. Zhang et al.*, at 8-9.

⁷⁷ *United States v. Zhang et al.*, at 8-9.

of targeted company employees.⁷⁸ The actors launched multiple attacks on target companies.⁷⁹ In one brazen attack on a French aerospace company, Chinese intelligence officer “Chai Meng” reported to a colleague: “We sent a fake email pretending to be from network management.”⁸⁰ In another attack on the same company, intelligence officers and their recruited agents inside the company conspired to plant a piece of “Trojan horse” malware on the company’s computer systems.⁸¹ One intelligence officer told another, “I’ll bring the horse [...] to you tonight. Can you take the Frenchmen out to dinner tonight? I’ll pretend I bump into you at the restaurant to say hello. This way we don’t need to meet in Shanghai.”⁸² Later on, the company’s insider confirmed to a Chinese intelligence officer that “[t]he horse was planted this morning.”⁸³

In another instance described in the indictment, one of the hackers that operated at the direction of Chinese intelligence officers created a “Google AppEngine” account, and working with his associates, placed malware on the network of an Oregon-based aerospace supplier.⁸⁴ This company manufactured parts for a turbofan engine that was of interest to China.⁸⁵ The hackers then used the Google AppEngine account to manage the implanted malware and steal commercial data over at least a seven-month period.⁸⁶ In another instance, malware was placed on the systems of a California-based company, which the hackers used as a watering hole to launch further attacks on other victims.⁸⁷ In short, the indictment indicates that China conducted a systematic and thorough campaign to attack targets with the goal of stealing valuable intellectual property to further its industrial policies.

b) Economic Espionage Campaign against the United States by Chinese Human Intelligence Programs

China conducts cyberintrusion and cybertheft hand-in-hand with the physical theft of intellectual property, many times with the use of insiders. A common pattern—shown in an indictment made public in October 2018—appears to be the recruitment of employees in a target company, who then take commercially sensitive information from their employer and transfer it to Chinese government agents. A different criminal case from September 2018 also shows how Chinese intelligence seeks to gather information from co-optees in the United States regarding potential recruits.

According to the indictment made public in October 2018, a high-ranking Chinese intelligence officer, “YanJun Xu” (“Xu”), sought to steal trade secrets from U.S. and European aviation

⁷⁸ United States v. Zhang et al., at 8-9.

⁷⁹ United States v. Zhang et al., at 5-6.

⁸⁰ United States v. Zhang et al., at 15.

⁸¹ United States v. Zhang et al., at 14-15.

⁸² United States v. Zhang et al., at 14-15.

⁸³ United States v. Zhang et al., at 16.

⁸⁴ United States v. Zhang et al., at 16.

⁸⁵ United States v. Zhang et al., at 17.

⁸⁶ United States v. Zhang et al., at 17.

⁸⁷ United States v. Zhang et al., at 13.

companies.⁸⁸ In particular, he targeted technology from a U.S. aircraft engine supplier related to the “design and use of certain types of composite materials in fan blades and fan blade encasements [that] provide greater engine durability, weight reduction, and lower costs.”⁸⁹ It is estimated that the company spent “billions of dollars of research and development investment” in developing these technologies over several decades.⁹⁰ This aircraft engine technology gave the company “a significant competitive advantage over others in the industry.”⁹¹

The indictment relates that Xu worked together with an official at the government-affiliated Nanjing University of Aeronautics and Astronautics (NUAA).⁹² NUAA is run by China’s MIIT, which, in the words of the indictment, has “significant influence over China’s aerospace industry.”⁹³ Xu developed a relationship with an employee at the company. He lied to the employee about his true identity, and instead posed as an official with a science and technology association.⁹⁴ According to the indictment, Xu worked with NUAA to invite the employee to give a presentation on the victim company’s “signature material design and manufacturing technology.”⁹⁵ In return, NUAA would cover all expenses and pay a stipend.⁹⁶ The employee traveled to China and gave the presentation.⁹⁷

According to the indictment, these facts started a relationship in which Xu attempted to obtain the company’s trade secrets for Chinese intelligence. Xu developed a list of intelligence collection requirements and specific technical information that he wanted the employee to provide.⁹⁸ This list included documents related to an aircraft engine’s containment analysis for a fan blade encasement.⁹⁹ The documents that the employee provided to Xu “contained a label warning that the presentation contained proprietary information[.]”¹⁰⁰

Xu’s scheme was stopped only after he was arrested in Belgium.¹⁰¹ According to the indictment, after receiving a computer file directory from the employee’s computer, Xu arranged to meet the employee and obtain the employee’s company computer. Xu confirmed that the contents of the

⁸⁸ Indictment, United States vs. Xu, No. 1:18CR43 (S.D. Ohio Apr. 4, 2018) (hereinafter “United States v. Xu”), at 1.

⁸⁹ United States v. Xu, at 2.

⁹⁰ United States v. Xu, at 3.

⁹¹ United States v. Xu, at 3.

⁹² United States v. Xu, at 2.

⁹³ United States v. Xu, at 2.

⁹⁴ United States v. Xu, at 2.

⁹⁵ United States v. Xu, at 8.

⁹⁶ United States v. Xu, at 7-9.

⁹⁷ United States v. Xu, at 9.

⁹⁸ United States v. Xu, at 6.

⁹⁹ United States v. Xu, at 10.

¹⁰⁰ United States v. Xu, at 10.

¹⁰¹ Press Release, U.S. Department of Justice, Chinese Intelligence Officer Charged with Economic Espionage Involving Theft of Trade Secrets from Leading U.S. Aviation Companies (Oct. 10, 2018), <https://www.justice.gov/opa/pr/chinese-intelligence-officer-charged-economic-espionage-involving-theft-trade-secrets-leading>.

employee's company computer could be exported to a portable hard drive.¹⁰² Instead, U.S. and Belgian law enforcement intervened, and Xu was extradited to the United States.¹⁰³

Chinese intelligence also sought to benefit from the resources available to co-optee “Ji Chaoqun” (“Ji”), who was arrested in Illinois in September 2018.¹⁰⁴ According to the complaint filed by DOJ, Ji was recruited by Chinese intelligence and tasked to provide background reports that could not be purchased from China on eight individuals whose names were provided to him.¹⁰⁵ The “eight individuals ... [are] naturalized U.S. citizens born in Taiwan or China now living in the United States”, and who “either currently worked in or were recently retired from a career in the science and technology industry, including several individuals specializing in aerospace fields.”¹⁰⁶ Seven out of the eight individuals had been employed by U.S. defense contractors.¹⁰⁷ Ji paid for background check reports on each of these eight individuals using services provided by Intelius, Instant Checkmate, and Spokeo.¹⁰⁸ According to the criminal complaint, he then transmitted these background check reports in email to his Chinese intelligence handler, and disguised them as “Midterm test questions.”¹⁰⁹ Ji facilitated the work of Chinese intelligence by providing them with unclassified information that could not be obtained easily in China.¹¹⁰

2. China's Campaign to Steal Semiconductor Technology from the United States

Another DOJ indictment made public in November 2018 discusses China's efforts to steal U.S. computer technology. In its 13th Five-Year Plan, which covers the years 2016-2020, China prioritized the development of integrated circuit devices, including dynamic random-access memory (DRAM).¹¹¹ DRAM is “used in leading-edge computing, consumer, networking, automotive, industrial, embedded, and mobile productions[.]”¹¹² China is seeking to create its own DRAM production capability, which would lessen its dependence on manufacturers in the United States. China's top government body, the State Council, views the building of a DRAM industry as “a national economic priority.”¹¹³

¹⁰² United States v. Xu, at 11.

¹⁰³ Press Release, U.S. Department of Justice, Chinese Intelligence Officer Charged with Economic Espionage Involving Theft of Trade Secrets from Leading U.S. Aviation Companies (Oct. 10, 2018).

¹⁰⁴ Press Release, U.S. Department of Justice, Chinese National Arrested for Allegedly Acting Within the United States as an Illegal Agent of the People's Republic of China (Sep. 25, 2018), <https://www.justice.gov/opa/pr/chinese-national-arrested-allegedly-acting-within-united-states-illegal-agent-people-s>.

¹⁰⁵ Criminal Complaint, United States v. Ji Chaoqun, No. 18CR611 (N.D. Ill. Sept. 21, 2018) (hereinafter “United States v. Ji Chaoqun”), at 11.

¹⁰⁶ United States v. Ji Chaoqun, at 10-11.

¹⁰⁷ United States v. Ji Chaoqun, at 10-11.

¹⁰⁸ United States v. Ji Chaoqun, at 9.

¹⁰⁹ United States v. Ji Chaoqun, at 11.

¹¹⁰ United States v. Ji Chaoqun, at 13.

¹¹¹ Indictment, U.S. v. United Microelectronics Corporation, et al., No. CR18465 (N.D. Cal. Sep. 27, 2018) (hereinafter “United States v. UMC, et al.”), at 8.

¹¹² United States v. UMC, et al., at 2.

¹¹³ United States v. UMC, et al., at 2.

According to the indictment, the Chinese government established Fujian Jinhua Integrated Circuits, Co. Ltd. (“Jinhua”) to help meet its DRAM production goals. Jinhua’s “sole purpose” is to create and manufacture DRAM.¹¹⁴ The Chinese government started Jinhua with over \$5 billion in capital.¹¹⁵ In or around 2016, Jinhua entered into a technology cooperation agreement with Taiwan-based United Microelectronics Corporation (UMC) to attempt to develop DRAM technology.¹¹⁶ Jinhua funded UMC, and UMC promised to “develop DRAM technology, transfer the technology to Jinhua, and Jinhua would mass produce DRAM.”¹¹⁷

In this case, the U.S. victim was Boise-based Micron Technology, Inc. (“Micron”), which is “the only United States-based company that manufactures DRAM.”¹¹⁸ It is a leader in the semiconductor industry, and “provides approximately 20-25% of the world supply of DRAM.”¹¹⁹ According to the indictment, Jinhua illegally obtained Micron’s trade secrets, which included “detailed, confidential information used to design and construct efficient manufacturing processes for advanced DRAM technology.”¹²⁰

The indictment states that Jinhua recruited employees at Micron’s Taiwan subsidiary Micron Memory Taiwan Co., Ltd. (MMT) to steal critical DRAM technology trade secrets. First, UMC hired MMT’s former president “Chen Zhengkun” (“Chen”).¹²¹ Chen in turn recruited “J.T. Ho,” who formerly worked at MMT.¹²² Prior to leaving MMT, Ho took confidential information from Micron and used it to further UMC and Jinhua DRAM technology design.¹²³ Ho also recruited former MMT employee “Wang Yungming,” who had taken “over 900 Micron files, some containing Micron confidential and proprietary information for the design of the company’s DRAM technology in its current and future generations that were still in its research and development phase.”¹²⁴

According to the indictment, the stolen trade secrets are valued at up to \$8.75 billion.¹²⁵ UMC and Jinhua have filed for a number of patents that contain information that is “the same or very similar to technology described in Micron’s [trade secrets].”¹²⁶ UMC then used the Chinese legal system to block Micron from selling its DRAM products in China, claiming that Micron had infringed on UMC’s patents.¹²⁷

¹¹⁴ United States v. UMC, et al., at 2.

¹¹⁵ United States v. UMC, et al., at 2.

¹¹⁶ United States v. UMC, et al., at 9.

¹¹⁷ United States v. UMC, et al., at 9.

¹¹⁸ United States v. UMC, et al., at 4.

¹¹⁹ United States v. UMC, et al., at 4.

¹²⁰ United States v. UMC, et al., at 5.

¹²¹ United States v. UMC, et al., at 3.

¹²² United States v. UMC, et al., at 3.

¹²³ United States v. UMC, et al., at 4.

¹²⁴ United States v. UMC, et al., at 4.

¹²⁵ United States v. UMC, et al., at 7.

¹²⁶ United States v. UMC, et al., at 11.

¹²⁷ *China Court Bans Micron Chip Sales in Patent Case: Taiwan’s UMC*, REUTERS, July 3, 2018, <https://www.reuters.com/article/us-micron-tech-stocks/china-court-bans-micron-chip-sales-in-patent-case-taiwans-umc-idUSKBN1JT2DL>.

The United States responded strongly in this case of Chinese economic espionage. Earlier this month, DOJ unsealed an indictment against Jinhua, UMC, and the former MMT employees.¹²⁸ The unsealing of these indictments come on the heels of recent action by the U.S. Department of Commerce (DOC) to restrict technology exports to Jinhua.¹²⁹ Due to the importance of semiconductor technology, the DOC determined that “Jinhua poses a significant risk of becoming involved in activities that are contrary to the national security interests of the United States.”¹³⁰

D. China Conducts a Global Espionage Campaign to Obtain Intellectual Property and Sensitive Commercial Information

After USTR released the Section 301 Report in March 2018, reports of Chinese government-supported intrusions into commercial networks and cyber-theft emerged in Australia, Japan, the EU, and South Korea.

1. Australia

A September 2018 report by the Australian Strategic Policy Institute¹³¹ (“ASPI Report”) found that China did not fulfill its commitments to Australia, stemming from a 2017 joint statement, to refrain from commercial cyber espionage.¹³² The ASPI Report describes a July 2018 incident in which Chinese hackers attacked the Australian National University system, which contained sensitive potentially commercially valuable information.”¹³⁴ The breach was of a nature that the investigators found it “hard to definitively determine what was stolen and for what purpose.”¹³⁵ The *Weekend Australian* has confirmed from a national security source that the intelligence highlighted Huawei’s role in cyber espionage.¹³⁶ In August 2018, Australia had banned Huawei,

¹²⁸ Press Release, U.S. Department of Justice, PRC State-Owned Company, Taiwan Company, and Three Individuals Charged with Economic Espionage (Nov. 1, 2018), <https://www.justice.gov/opa/pr/prc-state-owned-company-taiwan-company-and-three-individuals-charged-economic-espionage>.

¹²⁹ Press Release, U.S. Department of Justice, Addition of Fujian Jinhua Integrated Circuit Company, Ltd (Jinhua) to the Entity List (Oct. 29, 2018), <https://www.commerce.gov/news/press-releases/2018/10/addition-fujian-jinhua-integrated-circuit-company-ltd-jinhua-entity-list>.

¹³⁰ Press Release, U.S. Department of Justice, Addition of Fujian Jinhua Integrated Circuit Company, Ltd (Jinhua) to the Entity List (Oct. 29, 2018).

¹³¹ See also *About Us*, ASPI.ORG.AU, <https://www.aspi.org.au/about-aspi> (last visited Nov. 19, 2018) (According to its website, the Australian Strategic Policy Institute “is an independent, non-partisan think tank that produces expert and timely advice for Australia’s strategic and defence leaders.”).

¹³² Dr. Adam Segal, Dr. Samantha Hoffman, Fergus Hanson, and Tom Uren, *Hacking for Cash*, AUSTRALIAN STRATEGY POLICY INSTITUTE (Sep. 25, 2018), at 8, <https://www.aspi.org.au/report/hacking-cash>. See also Press Release, Australian Government, Department of Foreign Affairs and Trade, High-Level Security Dialogue with China: Joint Statement (Apr. 24, 2017), <https://dfat.gov.au/news/media/Pages/high-level-security-dialogue-with-china-joint-statement.aspx>.

¹³³ Dr. Adam Segal, Dr. Samantha Hoffman, Fergus Hanson, and Tom Uren, *Hacking for Cash*, AUSTRALIAN STRATEGY POLICY INSTITUTE (Sep. 25, 2018), at 11.

¹³⁴ Dr. Adam Segal, Dr. Samantha Hoffman, Fergus Hanson, and Tom Uren, *Hacking for Cash*, AUSTRALIAN STRATEGY POLICY INSTITUTE (Sep. 25, 2018), at 11.

¹³⁵ Dr. Adam Segal, Dr. Samantha Hoffman, Fergus Hanson, and Tom Uren, *Hacking for Cash*, AUSTRALIAN STRATEGY POLICY INSTITUTE (Sep. 25, 2018), at 11.

¹³⁶ *China Used Huawei for Hack Attack*, WEEKEND AUSTRALIAN, Nov. 3, 2018, at 2.

as well as China's other major telecoms equipment supplier ZTE, from participating in the construction of Australia's 5G network.¹³⁷

The ASPI Report echoes the conclusion of cybersecurity experts in the United States that China has improved its cyber capabilities and is better able to conceal its activities.¹³⁸ As the ASPI Report notes, Chinese activity targeting Australia spans the range of security and non-security related sectors, including mining.¹³⁹

2. Japan

FireEye reported in September 2018 on a new campaign detected in July 2018 of phishing attacks on Japanese corporations in the media sector by APT10, which was discussed earlier in this report. According to FireEye, APT10 has "a history of targeting Japanese entities."¹⁴⁰ The report noted that APT10 has upgraded its malware such that it has become more difficult to detect.¹⁴¹ In addition, FireEye noted in April 2018 that since November 2017, APT10 has conducted attacks on Japanese health care companies.¹⁴²

Moreover, according to an August 2018 report, Japan is considering excluding Chinese telecommunications firms Huawei and ZTE from bidding on public contracts for building information systems. Japanese newspaper Sankei Shimbun reported on August 26 that the Japanese government is considering the ban in a bid to prevent cyber-attacks and leaks of confidential information, and to align with the United States and Australia's recent restrictions regarding the two Chinese tech companies. The report published by the newspaper said the government had already begun discussing concrete measures, which would include a set of strict standards that companies need to satisfy to qualify for participating in public procurement for information systems.¹⁴³

¹³⁷ *China Used Huawei for Hack Attack*, WEEKEND AUSTRALIAN, Nov. 3, 2018, at 2.

¹³⁸ Dr. Adam Segal, Dr. Samantha Hoffman, Fergus Hanson, and Tom Uren, *Hacking for Cash*, AUSTRALIAN STRATEGY POLICY INSTITUTE (Sep. 25, 2018), at 11.

¹³⁹ Dr. Adam Segal, Dr. Samantha Hoffman, Fergus Hanson, and Tom Uren, *Hacking for Cash*, AUSTRALIAN STRATEGY POLICY INSTITUTE (Sep. 25, 2018), at 12. *See also* Justina Lee, *Suspected China Cyberhack on Singapore Is a Wake-Up Call for Asia*, NIKKEI ASIAN REVIEW, Aug. 21, 2018, <https://asia.nikkei.com/Spotlight/Asia-Insight/Suspected-China-cyberhack-on-Singapore-is-a-wake-up-call-for-Asia> (noting that in August 2018, the Singaporean government reportedly learned of a cyber-theft incident in which information regarding "1.5 million patients was stolen from the city-state's largest public health care provider." According to Fergus Hanson, head of the Cyber Policy Center at the Australian Strategic Policy Institute, the incident "certainly fits with a pattern of Chinese Communist Party cyber-activity." Hanson also noted that Beijing "has been accused of other major health care hacks in the United States.").

¹⁴⁰ Ayako Matsuda, Irshad Muhammad, *APT10 Targeting Japanese Corporations Using Updated TTPs*, FIREEYE BLOGS THREAT RESEARCH (Sep. 13, 2018), <https://www.fireeye.com/blog/threat-research/2018/09/apt10-targeting-japanese-corporations-using-updated-ttps.html>.

¹⁴¹ Ayako Matsuda, Irshad Muhammad, *APT10 Targeting Japanese Corporations Using Updated TTPs*, FIREEYE BLOGS THREAT RESEARCH (Sep. 13, 2018).

¹⁴² *China Hackers Accused of Attacking Japanese Defence Firms*, BLOOMBERG (via SOUTH CHINA MORNING POST), Apr. 23, 2018, <https://www.scmp.com/news/china/diplomacy-defence/article/2142863/china-hackers-accused-attacking-japanese-defence-firms>.

¹⁴³ *Exclusion of Two Chinese Telecommunications Equipment Companies from Government Procurement Would Align Japan with the United States and Australia on National Security Policy* [Japanese], THE SANKEI NEWS, Aug.

3. The European Union and Member States

Earlier this month, Germany's public broadcaster Deutsche Welle¹⁴⁴ published an article entitled "Chinese Spies Suspected of Pilfering German Industrial Pillars."¹⁴⁵ The article noted that in recent years, enterprises in the German state of Baden-Württemberg "have become the target of China's economic espionage more and more frequently, and the automobile industry as the local pillar is the hardest hit."¹⁴⁶ The Baden-Württemberg Ministry of the Interior confirmed this news in response to a question from the state legislature."¹⁴⁷ In addition, the Recorded Future report noted above also indicated that German automotive multinational Daimler AG was targeted by IPs traced to Tsinghua University.¹⁴⁸

4. South Korea

In June 2018, the Suwon District Prosecutor's Office in South Korea indicted one Chinese national for illegally attempting to use an external hard drive to transfer 5,130 trade secrets related to foldable OLED technology,¹⁴⁹ the latest in electronic display technology which is

26, 2018, <https://www.sankei.com/politics/news/180826/plt1808260002-n2.html>. See also *Cybersecurity Law of the People's Republic of China* (adopted by the National People's Congress on Nov. 7, 2016, effective June 1, 2017) (providing at Article 28 that "Network operators shall provide technical support and assistance to public security authorities and state security authorities in legally safeguarding state security and investigating crimes.").

¹⁴⁴ See *Who We Are*, DEUTSCHE WELLE, <https://www.dw.com/en/about-dw/profile/s-30688> (last visited Nov. 19, 2018).

¹⁴⁵ See article posted by Deutsche Welle on its Chinese-language news service: *Chinese Spies Suspected of Infiltrating German Pillar Industries* [Chinese], DEUTSCHE WELLE, Nov. 4, 2018, <https://www.dw.com/zh/中国间谍疑染指德国支柱产业/a-46150266>. See also *Deutschland im Visier chinesischer Internet-Spione* [German], DEUTSCHE WELLE, Dec. 11, 2017, <https://www.dw.com/de/deutschland-im-visier-chinesischer-internet-spione/a-41739291> (reporting on an investigation by Germany's Federal Office for the Protection of the Constitution (BfV) which reportedly found that "China is increasing the focus of Chinese espionage activity on the Internet.").

¹⁴⁶ See article posted by Deutsche Welle on its Chinese-language news service: *Chinese Spies Suspected of Infiltrating German Pillar Industries* [Chinese], DEUTSCHE WELLE, Nov. 4, 2018, <https://www.dw.com/zh/中国间谍疑染指德国支柱产业/a-46150266>. See also *Deutschland im Visier chinesischer Internet-Spione* [German], DEUTSCHE WELLE, Dec. 11, 2017, <https://www.dw.com/de/deutschland-im-visier-chinesischer-internet-spione/a-41739291> (reporting on an investigation by Germany's Federal Office for the Protection of the Constitution (BfV) which reportedly found that "China is increasing the focus of Chinese espionage activity on the Internet.").

¹⁴⁷ See article posted by Deutsche Welle on its Chinese-language news service: *Chinese Spies Suspected of Infiltrating German Pillar Industries* [Chinese], DEUTSCHE WELLE, Nov. 4, 2018, <https://www.dw.com/zh/中国间谍疑染指德国支柱产业/a-46150266>. See also *Deutschland im Visier chinesischer Internet-Spione* [German], DEUTSCHE WELLE, Dec. 11, 2017, <https://www.dw.com/de/deutschland-im-visier-chinesischer-internet-spione/a-41739291> (reporting on an investigation by Germany's Federal Office for the Protection of the Constitution (BfV) which reportedly found that "China is increasing the focus of Chinese espionage activity on the Internet.").

¹⁴⁸ Sanil Chohan, Winnona DeSombre, and Justin Grosfelt, *Chinese Cyberespionage Originating from Tsinghua University Infrastructure*, CTA-2018-0816, RECORDED FUTURE (Aug. 16, 2018), at 12.

¹⁴⁹ See *An Introduction to OLED Displays*, OLED INFO, <https://www.oled-info.com/introduction> (last visited Nov. 19, 2018). ("OLED (Organic Light-Emitting Diodes) is a flat light-emitting technology, made by placing a series of organic thin films between two conductors. When electrical current is applied, a bright light is emitted. OLEDs are emissive display that do not require a backlight and so are thinner and more efficient than LCD displays (which do require a white backlight)."). See also *Flexible OLEDs: Introduction and Market Status*, OLED INFO,

primarily used in TVs, smartphones, and other electronic devices.¹⁵⁰ The Suwon District Prosecutor's Office also indicted another Korean national for illegally removing thousands of files related to wind turbine blade testing and production technology from the Korea Institute of Machinery & Equipment in February 2017, then passing on some of the files to a Chinese competitor for a consultation contract between October 2017 and May 2018.¹⁵¹

Korean firms such as Samsung Display have tried to prevent former employees from breaching their non-disclosure agreements and seeking work with Chinese competitors. In this case, the former employee allegedly misled Samsung Display into believing that he was seeking employment in a different business sector. In fact, he had taken a position with a Chinese company with close business ties to Samsung Display's competitor in OLED technology. Chinese companies have been struggling to narrow the gap with South Korean display makers, especially in the field of flexible OLED displays.¹⁵² A Korean court found in favor of Samsung Display and prohibited the former researcher from taking employment with the Chinese company.

III. China's Unfair Technology Transfer Regime for U.S. Companies in China

A. Introduction

As detailed in Section II of the Section 301 Report, the Chinese government uses a variety of tools to regulate or intervene in U.S. companies' operations in China in order to require or pressure the transfer of technologies and intellectual property to Chinese companies. Two key aspects of China's technology transfer regime act to pressure technology transfer: foreign ownership restrictions and administrative licensing and approvals. These two aspects of China's technology transfer regime are furthered by the non-transparent and discretionary nature of China's foreign investment approvals system, wherein Chinese officials may use oral communication and informal administrative guidance to pressure foreign firms to transfer technology.

Despite the relaxation of some foreign ownership restrictions and certain other incremental changes in 2018, China's acts, policies, and practices related to forced technology transfer in China persist. Since the publication of the Section 301 Report, companies and other trading partners have continued to report on and express concern regarding China's technology transfer regime. China has not effectively resolved the systemic or specific problems detailed therein.

<https://www.oled-info.com/flexible-oled> (Foldable OLEDs, also known as flexible OLEDs, is an OLED "based on a flexible substrate which can be either plastic, metal or flexible glass.").

¹⁵⁰ *A Chinese National Arrested and Indicted for Attempt to Leak National Core Technology – First Case of a Foreign National* [Korean], MK NEWS, June 27, 2018, <http://news.mk.co.kr/newsRead.php?sc=30000022&year=2018&no=405034>.

¹⁵¹ *A Chinese National Arrested and Indicted for Attempt to Leak National Core Technology – First Case of a Foreign National* [Korean], MK NEWS, June 27, 2018.

¹⁵² *Court Bans Ex-Samsung Worker from Relocating to Chinese Firm*, YONHAP NEWS AGENCY, July 5, 2018, <https://en.yna.co.kr/view/AEN20180705000800320>.

B. U.S. and Foreign Companies and Other U.S. Trading Partners Continue to Share U.S. Concerns

1. Companies

Since March 2018, a number of independent surveys have shown that foreign businesses remain very concerned about the technology transfer regime in China. In July 2018, the *2018 China Business Report* of the American Chamber of Commerce in Shanghai (AmCham Shanghai) reported that 21% of member companies had felt pressure to transfer technology in exchange for market access.¹⁵³ This pressure was particularly notable in high-technology industries, with 44% of aerospace and 41% of chemical companies having reported facing “notable” pressure to transfer technology. According to AmCham Shanghai, these findings affirm “the current U.S. administration’s concern about this pay-to-play tactic in technology-based industries.”¹⁵⁴

In September 2018, the U.S.-China Business Council (USCBC) released its annual *2018 Member Survey*, which reported that over 58% of respondents had cited “licensing and regulatory approvals,” 34% had cited “foreign investment barriers,” and 27% had cited “government pressure to favor Chinese companies” as signs of protectionism in China.¹⁵⁵ These findings confirm the persistent pattern of conduct highlighted in the Section 301 Report.¹⁵⁶

Surveys of European companies indicate similar concerns. In June 2018, the *Business Confidence Survey 2018* of the European Union Chamber of Commerce in China found that “unfair technology transfers continue despite government assurances,” with 19% of Chamber members reporting that they had felt compelled to engage in unfair technology transfers to maintain market access in China.¹⁵⁷ Consistent with the findings reported in AmCham Shanghai’s survey, European companies in high-technology industries were significantly more likely to report in the affirmative, including: 36% of aerospace and aviation, 33% of civil engineering and construction, 27% of automotive, and 23% of chemical and petroleum companies.¹⁵⁸ This new information supports the Section 301 Report’s finding that “[industry] surveys make clear that China’s technology transfer regime is a persistent problem for U.S. companies in China, particularly in high-technology sectors targeted by the Chinese government.”¹⁵⁹

In September 2018, the European Union Chamber of Commerce in China published its *2018/2019 Position Paper*, which outlines European companies’ dissatisfaction with China’s

¹⁵³ AMERICAN CHAMBER OF COMMERCE IN SHANGHAI, 2018 CHINA BUSINESS REPORT (July 2018), at 18.

¹⁵⁴ AMERICAN CHAMBER OF COMMERCE IN SHANGHAI, 2018 CHINA BUSINESS REPORT (July 2018), at 18.

¹⁵⁵ U.S.-CHINA BUSINESS COUNCIL, 2018 MEMBER SURVEY (2018), at 5, https://www.uschina.org/sites/default/files/2018_ucsbc_member_survey_final.pdf.

¹⁵⁶ Unlike the 2017 survey cited in the Section 301 Report, the USCBC’s 2018 Member Survey does not include statistics on technology transfer requests from the Chinese government.

¹⁵⁷ EUROPEAN UNION CHAMBER OF COMMERCE IN CHINA, EUROPEAN BUSINESS IN CHINA BUSINESS CONFIDENCE SURVEY 2018 (2018), at 40.

¹⁵⁸ EUROPEAN UNION CHAMBER OF COMMERCE IN CHINA, EUROPEAN BUSINESS IN CHINA BUSINESS CONFIDENCE SURVEY 2018 (2018), at 40.

¹⁵⁹ See Section II.A.2. of the Section 301 Report.

regulatory environment in a number of areas, including “access to licenses,” “market access barriers,” “unequal and unfair treatment,” and “complex and lengthy administrative procedures.”¹⁶⁰ These areas are the main focus of Section II of the Section 301 Report. The *2018/2019 Position Paper* states:

[T]he European Chamber shares many of the U.S. concerns about China, including a general lack of market access—particularly in high-tech sectors—a business environment that favors domestic firms, the continued existence of technology transfers as a pre-condition for market access, and the requirement to localize information and industrial and innovation facilities.¹⁶¹

In November 2018, moreover, the European Union Chamber of Commerce in China released an official statement expressing doubt about market opening promises made by President Xi Jinping in a keynote speech at the Chinese International Import Expo in Shanghai. According to the statement, China’s “constant repetition, without sufficient concrete measures or timelines being introduced, has left the European business community increasingly desensitized to these kinds of promises.”¹⁶²

2. Other Trading Partners

In a number of fora over the last year, other U.S. trading partners have indicated that they share U.S. concerns about China’s technology transfer regime and the types of acts, policies, and practices in which China engages. During China’s WTO Trade Policy Review in July 2018, the *Concluding Remarks by the Chairperson* noted that concerns were raised about China “regarding JV [(joint venture)] requirements, and also with regards to what some perceived as being inconsistent and unpredictable regulatory practices and technology transfer requirements.”¹⁶³ Referencing these remarks, the European Union Chamber of Commerce in China’s *2018/2019 Position Paper* states:

[T]he chairperson’s concluding remarks on the WTO’s 2018 Trade Policy Review and the more than 1,900 questions raised by other members reflect the international community’s mixed feelings towards the situation and *indicate that concerns about China’s role in the global economy are widespread. These concerns derive from issues such as unfair technology transfers, which a reported 19 per cent of European Chamber members felt compelled to do to maintain market access in 2017, a lack of investment*

¹⁶⁰ EUROPEAN UNION CHAMBER OF COMMERCE IN CHINA, POSITION PAPER 2018/2019 (Sep. 18, 2018), at 6-7, http://www.europeanchamber.com.cn/en/upcoming-events/14581/European_Business_in_China_Position_Paper_2018_2019.

¹⁶¹ EUROPEAN UNION CHAMBER OF COMMERCE IN CHINA, POSITION PAPER 2018/2019 (Sep. 18, 2018), at 155.

¹⁶² Press Release, European Union Chamber of Commerce in China, European Chamber’s Statement on President Xi’s Speech at China International Import Export (Nov. 5, 2018), http://www.europeanchamber.com.cn/en/press-releases/2792/european_chamber_s_statement_on_president_xi_s_speech_at_the_china_international_import_expo.

¹⁶³ *Concluding Remarks by the Chairperson*, WORLD TRADE ORGANIZATION (July 11 and 13, 2018), https://www.wto.org/english/tratop_e/tpr_e/tp475_crc_e.htm.

reciprocity and concerns over how the China Manufacturing 2025 initiative will be pursued.¹⁶⁴

On the occasion of the Chinese International Import Expo in Shanghai, the French and German ambassadors to China co-authored an opinion piece advocating reform of China's policies and practices. The letter called on China to provide the same opportunities for European businesses in China that Chinese businesses enjoy in Europe, including taking the significant step to abolish JV requirements across all sectors.¹⁶⁵ The letter further urged China to complement these steps by allowing greater access to operational licenses and adopting other reforms in sectors that are formally open to foreign companies.¹⁶⁶

A 2017 report from the Organisation for Economic Co-operation and Development (OECD) also confirmed the existence of China's technology transfer regime. In its discussion of sector-specific equity restrictions and JV requirements, the 2017 report pointed out that a survey of available literature shows, with respect to China, "several restrictions are explicitly aimed at mandating technology transfer."¹⁶⁷ The 2017 report also found that the Chinese government must approve certain JVs, and that such approval process "explicitly involves a significant exchange of technology-related information with officials."¹⁶⁸ It specifically noted that "Chinese authorities retain the right to examine the machinery and proprietary technology provided by foreign parties, and require submission of documentation on industrial property or proprietary technology...."¹⁶⁹

C. China Has Made Only Incremental Changes to Foreign Investment Restrictions

1. Changes to Foreign Ownership Restrictions

Since the publication of the Section 301 Report, China has taken some actions to remove or relax certain foreign ownership restrictions. As set out in the Section 301 Report, China's inbound foreign investment catalogue provides a starting point for understanding China's restrictions applying to foreign investment. On June 28, 2018 (entering into force on July 28, 2018), the NDRC and the Ministry of Commerce (MOFCOM) issued the *Special Administrative Measures (Negative List) for the Access of Foreign Investment (2018)* ("2018 Negative List"), which

¹⁶⁴ EUROPEAN UNION CHAMBER OF COMMERCE IN CHINA, POSITION PAPER 2018/2019 (Sep. 18, 2018), at 4 (emphasis added).

¹⁶⁵ Jean-Maurice Ripert, Clemens Von Goetze, "Will Shanghai Become Milestone for China's Opening-Up?" Ask French, German Ambassadors, CAIXIN, Nov. 1, 2018, <https://www.caixinglobal.com/2018-11-01/opinion-will-shanghai-become-milestone-for-chinas-opening-up-101341138.html>.

¹⁶⁶ Jean-Maurice Ripert, Clemens Von Goetze, "Will Shanghai Become Milestone for China's Opening-Up?" Ask French, German Ambassadors, CAIXIN, Nov. 1, 2018.

¹⁶⁷ Kowalski, P., D. Rabaioli and S. Vallejo, *International Technology Transfer Measures in an Interconnected World*, 206 OECD TRADE POLICY PAPER 39 (OECD Publishing, Paris, 2017), [https://www.oecd-ilibrary.org/docserver/ada51ec0-](https://www.oecd-ilibrary.org/docserver/ada51ec0-en.pdf?expires=1541535691&id=id&accname=guest&checksum=4A6A6D1DB0FB9D748CE70D7595C41858)

[en.pdf?expires=1541535691&id=id&accname=guest&checksum=4A6A6D1DB0FB9D748CE70D7595C41858](https://www.oecd-ilibrary.org/docserver/ada51ec0-en.pdf?expires=1541535691&id=id&accname=guest&checksum=4A6A6D1DB0FB9D748CE70D7595C41858).

¹⁶⁸ Kowalski, P., D. Rabaioli and S. Vallejo, *International Technology Transfer Measures in an Interconnected World*, 206 OECD TRADE POLICY PAPER 40 (OECD Publishing, Paris, 2017).

¹⁶⁹ Kowalski, P., D. Rabaioli and S. Vallejo, *International Technology Transfer Measures in an Interconnected World*, 206 OECD TRADE POLICY PAPER 40 (OECD Publishing, Paris, 2017).

replaces the negative list in China's most recent (2017) Foreign Investment Catalogue.¹⁷⁰ (See **Appendix A** for an updated table of examples of equity restrictions and local partner requirements in the *2018 Negative List*.)¹⁷¹ Among other changes, the *2018 Negative List* eases or removes foreign equity caps and certain other restrictions for the automotive, aircraft and shipbuilding industries, and for certain financial sectors. Some of these changes take place immediately and some over time.¹⁷²

As analysts and industry stakeholders have noted, however, these revisions reflect only incremental changes to China's foreign ownership restrictions. Several of the industries opened in the *2018 Negative List* are in sectors in which China already has an internal reason for inviting more foreign participation, including in connection with attracting more foreign investment (and potentially technology transfer) in manufacturing and extractive industries, or in which market conditions are already overwhelmingly favorable to Chinese companies (e.g., railway lines or electricity grid construction and management).¹⁷³ Following its release, the European Union Chamber of Commerce in China criticized the list for continuing "to discriminate against non-Chinese companies by maintaining the distinction between domestically-invested and foreign-invested enterprises with respect to market entry and approval requirements."¹⁷⁴ The Chamber's president noted that while these reductions represent a further step towards China's opening, "a negative list of 48 areas is excessive and a lot more needs to be done."¹⁷⁵

Using foreign ownership restrictions, including in connection with its administrative review and licensing processes, China continues to pressure technology transfer from foreign companies in numerous ways. For example, a September 2018 report by the *Wall Street Journal* provides case-specific examples of Chinese actions to obtain technology from five major U.S. companies: DuPont, General Electric, Advanced Micro Devices, Huntsman Corp, and Micron

¹⁷⁰ *Special Administrative Measures (Negative List) for the Access of Foreign Investment (2018)* (NDRC and MOFCOM 2018 Order No. 18, issued June 28, 2018, effective July 28, 2018).

¹⁷¹ China also adopted other specific policies related to the *2018 Negative List*. For example, a tax preference previously available only to foreign companies in sectors "encouraged" for inbound investment was expanded, as of Sep. 29, 2018, to apply to all foreign investments except those related to increasing, transferring or purchasing shares of publicly traded companies and which are not in "prohibited" sectors. *Notice on the Applicable Scope of the Policy of Temporary Exemption of Withholding Taxes on the Direct Investment Made by Overseas Investors with Distributed Profits* (MOF, State Administration of Taxation, NDRC, MOFCOM, Cai Shui [2018] No. 102, issued Sep. 29, 2018).

¹⁷² Notably, in conjunction with making certain incremental changes to foreign investment restrictions, China continues to designate sectors "encouraged" for foreign investment. See the official notice attached to the *2018 Negative List*, which provides that sectors "encouraged" in 2017 will maintain their "encouraged" status.

¹⁷³ See, e.g., David Fickling, *China's Foreign Investment Door Opens, But Only Barely*, BLOOMBERG, July 1, 2018 (stating that *2018 Negative List* allows China "to proclaim a more open market while in practice making little tangible difference.").

¹⁷⁴ Press Release, Benelux Chamber of Commerce in China, European Chamber's Statement on the New Negative List 2018 (July 9, 2018), <https://beijing.bencham.org/news/european-chambers-statement-new-negative-list-2018>.

¹⁷⁵ Press Release, Benelux Chamber of Commerce in China, European Chamber's Statement on the New Negative List 2018 (July 9, 2018), <https://beijing.bencham.org/news/european-chambers-statement-new-negative-list-2018>.

Technologies.¹⁷⁶ Several of these companies faced coercive pressure from Chinese officials.¹⁷⁷ According to the article, China's tactics "include pressuring U.S. partners in JVs to relinquish technology, using local courts to invalidate American firms' patents and licensing arrangements, dispatching antitrust and other investigators, and filling regulatory panels with experts who may pass secrets to Chinese competitors."¹⁷⁸ Similar policies and practices are described in the Section 301 Report.¹⁷⁹

2. The Automotive Sector as an Illustrative Example of China's Continued Use of Foreign Investment Restrictions

In the automotive sector, discussed in detail in Section II.B.2(a) of the Section 301 Report, China has eased certain restrictions on foreign investment. As first announced by NDRC in April 2018,¹⁸⁰ and as written into the *2018 Negative List* (see **Appendix A**), China removed foreign equity caps for special-purpose vehicles and new energy vehicles (NEVs) as of July 28, 2018, and has pledged to remove foreign equity caps for non-NEV commercial vehicles by 2020 and non-NEV passenger vehicles by 2022. The *2018 Negative List* also provides that in 2022, China will remove the current restriction that limits foreign automakers to two JVs.¹⁸¹

However, several factors suggest that non-Chinese automakers will continue to face significant pressure to share their technology with Chinese partners. First, China is contemplating new restrictions on automotive investments that would be more onerous on non-Chinese entities. The draft *Regulations for the Administration of Investment in the Automobile Industry*,¹⁸² published in May 2018, would prohibit certain investments in new fuel-vehicle manufacturing plants,¹⁸³

¹⁷⁶ Lingling Wei and Bob Davis, *How China Systematically Pries Technology From U.S. Companies*, WALL ST. J., Sep. 26, 2018, <https://www.wsj.com/articles/how-china-systematically-pries-technology-from-u-s-companies-1537972066>.

¹⁷⁷ Lingling Wei and Bob Davis, *How China Systematically Pries Technology From U.S. Companies*, WALL ST. J., Sep. 26, 2018.

¹⁷⁸ Lingling Wei and Bob Davis, *How China Systematically Pries Technology From U.S. Companies*, WALL ST. J., Sep. 26, 2018.

¹⁷⁹ See, e.g., Section II.B, Section VI.A.2, Section VI.A.3, and Section II.C.2 of the Section 301 Report.

¹⁸⁰ *National Development and Reform Commission Answers Journalists' Questions Regarding the Formulation of a New Foreign Investment Negative List and the Opening of the Manufacturing Sector* (NDRC, published Apr. 17, 2018), http://www.ndrc.gov.cn/xwzx/xwfb/201804/t20180417_882711.html.

¹⁸¹ In a widely reported case involving U.S. NEV manufacturer Tesla, China has apparently allowed Tesla to establish a WFOE for manufacture of NEVs in conformity with the *2018 Negative List*. See Brenda Goh, *Tesla Goes Big in China with Shanghai Plant*, REUTERS, July 10, 2018, <https://www.reuters.com/article/us-tesla-china/tesla-goes-big-in-china-with-shanghai-plant-idUSKBN1K01HL>; Evelyn Chang, *Tesla Buys New Plot for China Factory for \$140 Million*, CNBC, Oct. 17, 2018, <https://www.cnbc.com/2018/10/17/tesla-buys-new-plot-for-its-first-china-factory.html>. In another reported case, BMW has stated it will pay about \$4 billion to increase its stake in its existing JV with Brilliance China Automotive Holdings Ltd. to 75% from 50%. The change would come into effect in 2022, the year that China has committed to lifting the foreign equity cap on manufacturing of non-NEV passenger vehicles. The new joint-venture agreement lasts through 2040, extended from 2028. See *BMW to Take Control of China Joint Venture in \$4 Billion Deal*, WALL ST. J., Oct. 11, 2018, <https://www.wsj.com/articles/bmw-to-take-control-of-china-joint-venture-in-4-1-billion-deal-1539233722>.

¹⁸² NDRC Notice on Soliciting Comments on the "(For-Comment Draft) Regulations for the Administration of Investment in the Automobile Industry" (NDRC, issued July 4, 2018).

¹⁸³ NDRC Notice on Soliciting Comments on the "(For-Comment Draft) Regulations for the Administration of Investment in the Automobile Industry" (NDRC, issued July 4, 2018) at Art. 11.

and would subject existing fuel-vehicle manufacturing enterprises to new requirements relating to existing vehicle production, vehicle exports, and NEV output.¹⁸⁴ The draft regulations would also subject newly established pure-electric vehicle (PEV) manufacturing enterprises, as well as fuel-vehicle manufacturing enterprises seeking to expand PEV production capacity, to a number of onerous requirements.¹⁸⁵ Foreign automakers seeking to establish new manufacturing facilities without a Chinese JV partner would find it particularly difficult to meet these requirements.

These draft investment restrictions also serve to illustrate how foreign automakers, like foreign companies in various sectors in China, continue to be subject to administrative review and licensing processes used in China's technology transfer regime. The European Union Chamber of Commerce in China's Automotive Working Group comments in its *2018/2019 Position Paper*: "[T]here are still concerns over investment from an industry standpoint. First, administrative and permit approvals that are closely linked to major investments are sometimes a deterrent, either intentionally or unintentionally."¹⁸⁶

Second, China's automotive policy is transitioning to a new phase that may exacerbate pressure on foreign automakers to remain in JVs with their Chinese competitors. Since 2010, the Chinese government has subsidized NEVs manufactured and sold in China through a program known as Promoted Use.¹⁸⁷ This financial support has gone predominately to Chinese domestic automakers, who have scaled up NEV production. While the Promoted Use program is scheduled to be phased out by the end of 2020,¹⁸⁸ as of 2019, a new "Credit System" will require *all* automakers, including foreign automakers who currently produce no or very few NEVs in China, to generate or purchase credits based on their fuel-vehicle fleet's corporate average fuel consumption as well as their NEV production.¹⁸⁹

¹⁸⁴ NDRC Notice on Soliciting Comments on the "(For-Comment Draft) Regulations for the Administration of Investment in the Automobile Industry" (NDRC, issued July 4, 2018) at Art 12.

¹⁸⁵ NDRC Notice on Soliciting Comments on the "(For-Comment Draft) Regulations for the Administration of Investment in the Automobile Industry" (NDRC, issued July 4, 2018) at Chapter IV.

¹⁸⁶ EUROPEAN UNION CHAMBER OF COMMERCE IN CHINA, POSITION PAPER 2018/2019 (Sep. 18, 2018), at 181. For further discussion of administrative licensing and approvals, see also key recommendations by the European Union Chamber of Commerce in China's Standards and Conformity Assessment Working Group.

¹⁸⁷ Notice on Adjusting Fiscal Subsidy Policies for Promoting Use of NEVs (MOF, Ministry of Science and Technology, MIIT, NDRC, Cai Jian [2016] No. 958, issued Dec. 30, 2016).

¹⁸⁸ Promoted Use is currently in the third of three scheduled phases. Phase III started in 2016 and is scheduled to conclude at the end of 2020. The first of the three measures that govern Phase III explicitly indicates a 2020 end date for administering Promoted Use. See Notice on 2016-2020 Fiscal Support Policies for Promoting Use of New Energy Vehicles (MOF, Ministry of Science and Technology, MIIT, NDRC, issued Apr. 22, 2015, Cai Jian [2015] No. 134). The second of the three measures also indicates a scheduled 2020 end date. See Notice on Adjusting Fiscal Subsidy Policies for Promoting Use of New Energy Vehicles (MOF, Ministry of Science and Technology, MIIT, NDRC, issued Dec. 29, 2016, effective Jan. 1, 2017, Cai Jian [2016] No. 958). The third of the three measures, which is currently in force, indicates an implementation period pursuant to the two aforementioned measures. See Notice on Adjusting and Improving Fiscal Subsidy Policies for the Promotion and Application of New Energy Vehicles (MOF, Ministry of Science and Technology, MIIT, NDRC, issued Feb. 12, 2018, Cai Jian [2018] No. 18).

¹⁸⁹ Measures for Parallel Management of the Passenger Vehicle Corporate Average Fuel Consumption and New Energy Vehicle Credit System (MIIT, MOFCOM, MOF, General Administration of Customs, and General

To comply with this new Credit System, foreign automakers will have a strong incentive to establish JVs with Chinese domestic automakers who are already large NEV producers and can generate the requisite NEV credits. For example, in August 2018, Ford signed a memorandum of understanding with China's Zotye Automobile to build a 50-50 JV to develop, produce and sell electric passenger cars, and was reportedly in talks with at least three Chinese automakers to produce NEVs in China. According to a news report by *China Daily*, "An industry insider close to the matter said the move is *primarily to brace Ford for the credit system* that is designed to stimulate the development of new energy cars."¹⁹⁰

As a general matter, the fact that China has maintained foreign ownership restrictions in the automotive sector for over two decades¹⁹¹ now places many foreign automakers in an unfavorable position to make wholly foreign-owned investments. The China-based spokesman for Japanese automaker Honda Motor Co. stated in April 2018 that "we have no plan to change our investment ratio."¹⁹² The spokesman further explained that "If we had this option 20 years ago when we were first coming into the market, we might have thought differently."¹⁹³ The European Union Chamber of Commerce in China has similarly commented:

For European companies in China that have previously faced JV requirements, most have already developed a strong and entrenched relationship with their required partners. In most cases, it is unlikely that this will change.¹⁹⁴

IV. China's Discriminatory Licensing Restrictions

As discussed earlier in Section I.A, USTR is pursuing dispute settlement against China at the WTO to address China's discriminatory technology licensing requirements. USTR initiated a request for consultations on March 23, 2018, after President Trump directed the U.S. Trade Representative to pursue dispute settlement in the WTO to confront China over its policies that result in unfair treatment for U.S. companies and innovators trying to do business in China.¹⁹⁵

Administration of Quality Supervision, Inspection and Quarantine, 2017 Order No. 44, issued Sep. 27, 2017, effective Apr. 1, 2018).

¹⁹⁰ Li Fusheng, *Ford Prepares for New Energy Credit System*, CHINA DAILY, Aug. 28, 2017 (emphasis added), http://www.chinadaily.com.cn/business/motoring/2017-08/28/content_31212064.htm. See also Alysha Webb, *Strict Emission Laws Push EV Plans for China*, WARD'S AUTO, June 18, 2018, <https://www.wardsauto.com/engines/strict-emissions-laws-push-ev-plans-china>.

¹⁹¹ See *State Council Notice on Issuing the "Automotive Industry Industrial Policy"* (State Council, Guo Fa [1994] No. 17, issued Mar. 12, 1994), replaced in 2004 by the *Automotive Industry Development Policy* (NDRC, 2004 Order No. 8, issued May 21, 2004).

¹⁹² Trefor Moss and Mike Colias, *China to Ease Rules on Foreign Auto Makers*, WALL ST. J., Apr. 17, 2018, <https://www.wsj.com/articles/china-to-ease-rules-on-foreign-auto-makers-1523963345>.

¹⁹³ Trefor Moss and Mike Colias, *China to Ease Rules on Foreign Auto Makers*, WALL ST. J., Apr. 17, 2018.

¹⁹⁴ EUROPEAN UNION CHAMBER OF COMMERCE IN CHINA, POSITION PAPER 2018/2019 (Sep. 18, 2018), at 181.

¹⁹⁵ Press Release, Office of the U.S. Trade Representative, Following President Trump's Section 301 Decisions, USTR Launches New WTO Challenge against China (Mar. 23, 2018), <https://ustr.gov/about-us/policy-offices/press-office/press-releases/2018/march/following-president-trump%E2%80%99s-section>. See also Request for

The U.S. consultations request details how China appears to breach WTO rules by denying foreign patent holders, including U.S. companies, basic patent rights to stop a Chinese entity from using the technology after a licensing contract ends. China also appears to break WTO rules by imposing mandatory adverse contract terms that discriminate against and are less favorable for imported foreign technology. These Chinese policies hurt innovators in the United States and worldwide by interfering with the ability of foreign technology holders to set market-based terms in licensing and other technology-related contracts.

Japan; the EU; Ukraine; the Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu; and Saudi Arabia requested to join the U.S. consultations as third parties.¹⁹⁶

Following the U.S. request, the EU also filed a request for consultations with China at the WTO to address China's discriminatory technology licensing requirements.¹⁹⁷

In July 2018, the United States consulted with China, with Japan and the EU attending as third parties.¹⁹⁸ The dispute was not resolved during consultations. Accordingly, on October 18, 2018, the United States requested that the WTO establish a panel to examine the matter.¹⁹⁹

In support of its request for a panel at the meeting of the WTO Dispute Settlement Body on October 29, 2018, the United States recalled that "all WTO Members, including China, have committed through the *Agreement on Trade-Related Aspects of Intellectual Property Rights* (TRIPS Agreement) to provide certain protections for intellectual property rights, a core element of a free and fair international trading system. Among those intellectual property rights are the commitments to protect exclusive rights of patent holders and to accord to the nationals of other Members treatment no less favorable than that the Member accords to its own nationals with

Consultations by the United States, *China — Certain Measures Concerning the Protection of Intellectual Property Rights*, WTO Doc. WT/DS542/1 (Mar. 26, 2018).

¹⁹⁶ Request to Join Consultations – Communication from Japan, *China — Certain Measures Concerning the Protection of Intellectual Property Rights*, WTO Doc. WT/DS542/2 (Apr. 5, 2018); Request to Join Consultations – Communication from the European Union, *China — Certain Measures Concerning the Protection of Intellectual Property Rights*, WTO Doc. WT/DS542/3 (Apr. 5, 2018); Request to Join Consultations – Communication from Ukraine, *China — Certain Measures Concerning the Protection of Intellectual Property Rights*, WTO Doc. WT/DS542/4 (Apr. 6, 2018); Request to Join Consultations – Communication from the Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu, *China — Certain Measures Concerning the Protection of Intellectual Property Rights*, WTO Doc. WT/DS542/5 (Apr. 6, 2018); Request to Join Consultations – Communication from Saudi Arabia, *China — Certain Measures Concerning the Protection of Intellectual Property Rights*, WTO Doc. WT/DS542/6 (Apr. 6, 2018).

¹⁹⁷ Request for Consultations by the European Union, *China — Certain Measures on the Transfer of Technology*, WTO Doc. WT/DS549/1 (June 6, 2018), https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds549_e.htm.

¹⁹⁸ See Acceptance by China of the Requests to Join Consultations, *China — Certain Measures Concerning the Protection of Intellectual Property Rights*, WTO Doc. WT/DS542/7 (July 17, 2018). Although China accepted the requests to join consultations as a third party from Japan and the EU, it did not accept the requests of Ukraine; the Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu; and Saudi Arabia; and China did not provide an explanation as to why those requests were not granted.

¹⁹⁹ Request for the Establishment of a Panel by the United States, *China — Certain Measures Concerning the Protection of Intellectual Property Rights*, WTO Doc. WT/DS542/8 (Oct. 19, 2018).

regard to the protection of intellectual property.”²⁰⁰ The U.S. delegation went on to note that “China agreed to these commitments when it acceded to the WTO. However, for the past several years, the United States has repeatedly raised concerns about China’s policies relating to technology licensing that do not comport with China’s WTO commitments.”²⁰¹

China blocked the first U.S. request for a WTO dispute settlement panel as provided for in the rules for dispute settlement proceedings, but the United States intends to repeat its request to establish a WTO dispute settlement panel at the November 21, 2018 meeting of the Dispute Settlement Body.

V. Outbound Investment

A. Introduction

The Chinese government continues to direct and/or unfairly facilitate the systematic investment in, and/or acquisition of, U.S. companies and assets by Chinese companies to obtain cutting-edge technologies and intellectual property and generate large-scale technology transfer in industries deemed important by Chinese government industrial plans.

The Section 301 Report considered China’s outbound foreign direct investment (OFDI) trends for the period 2005-2016. Since March 2018, new data has become available that suggests that growth in total OFDI from China slowed in 2017 and 2018. According to China’s official *2017 China Foreign Direct Investment Statistical Report*,²⁰² China registered \$158.29 billion in total OFDI worldwide in 2017, a year-on-year decrease of 19.3%.²⁰³ In particular, China’s non-financial investment dropped 23% in 2017 to \$139.5 billion,²⁰⁴ and in the first three quarters of

²⁰⁰ Press Release, U.S. Mission to International Organizations in Geneva, Statements by the United States at the October 29, 2018, DSB Meeting, https://geneva.usmission.gov/wp-content/uploads/sites/290/Oct29.DSB_.Stmt_.as-delivered.fin_.rev_.public.pdf (last visited Nov. 19, 2018).

²⁰¹ Press Release, U.S. Mission to International Organizations in Geneva, Statements by the United States at the October 29, 2018, DSB Meeting.

²⁰² MINISTRY OF COMMERCE, NATIONAL STATISTICS BUREAU, AND STATE ADMINISTRATION OF FOREIGN EXCHANGE, THE PEOPLE’S REPUBLIC OF CHINA, 2017 CHINA FOREIGN DIRECT INVESTMENT STATISTICAL REPORT [Chinese] (Sep. 28, 2018). The report was issued at a press conference hosted by MOF. See Press Release, Ministry of Finance, The People’s Republic of China, Ministry of Finance Hosts Press Conference on the 2017 China Foreign Direct Investment Statistical Report [Chinese] (Sep. 28, 2018), <http://www.mofcom.gov.cn/article/ae/ah/diaocd/201809/20180902791597.shtml>.

²⁰³ MINISTRY OF COMMERCE, NATIONAL STATISTICS BUREAU, AND STATE ADMINISTRATION OF FOREIGN EXCHANGE, THE PEOPLE’S REPUBLIC OF CHINA, 2017 CHINA FOREIGN DIRECT INVESTMENT STATISTICAL REPORT [Chinese] (Sep. 28, 2018), at 3 and 83.

²⁰⁴ MINISTRY OF COMMERCE, NATIONAL STATISTICS BUREAU, AND STATE ADMINISTRATION OF FOREIGN EXCHANGE, THE PEOPLE’S REPUBLIC OF CHINA, 2017 CHINA FOREIGN DIRECT INVESTMENT STATISTICAL REPORT [Chinese] (Sep. 28, 2018), at 5 and 86.

2018, there has only been a marginal recovery of non-financial investment²⁰⁵ compared to the same period in 2017.²⁰⁶

With respect to Chinese investment in the United States, transaction-based data from Rhodium Group and the American Enterprise Institute (AEI)²⁰⁷ likewise indicate a declining trend in 2017 and 2018. According to a Rhodium report, in the first half of 2018, Chinese companies completed acquisitions and Greenfield investments worth only \$1.8 billion in the United States – a drop of more than 90% from 1H 2017 and the lowest level in seven years – and “the pace of newly announced transactions remained similarly depressed.”²⁰⁸ China’s official data for 2017 also shows a year-on-year decrease in Chinese OFDI in the United States.²⁰⁹

This tapering off of China’s overall outbound investment is not surprising, nor does it indicate that China has fundamentally changed its acts, policies, and practices for high-technology acquisition. A number of factors are at work that help to explain the overall decrease. First, the United States has both highlighted its longstanding concerns about China’s outbound investment policies and practices and increasingly taken direct action to address them. Second, China has been reducing overall OFDI by discouraging acquisitions in sectors such as real estate.

Despite the reduction in overall OFDI, China’s targeted acquisitions of technology and intellectual property persist. In particular, Chinese VC investment in U.S. technology centers such as Silicon Valley has intensified in recent months. China has not addressed the problems caused by its outbound investment regime. Indeed, this investment regime appears to be essentially unchanged, and – as of the publication of this supplemental report – no reform proposals are on the horizon.

²⁰⁵ China’s official data reported in October 2018 records \$82 billion of total non-financial OFDI for January-September 2018, a 5.1% increase year-on-year over the same period. *The Major Trend of Chinese Enterprises ‘Going Out’ Has Not Changed* [Chinese], PEOPLE’S DAILY FOREIGN EDITION (via gov.cn), Oct. 19, 2018, http://www.gov.cn/xinwen/2018-10/19/content_5332323.htm.

²⁰⁶ China’s official data indicates non-financial investment in the first three quarters of 2017 was \$78 billion. See Press Release, Ministry of Commerce, The People’s Republic of China, Ministry of Commerce Cooperation Division Representative Speaks on Our Nation’s Foreign Investment Cooperation Situation [Chinese] (Oct. 10, 2017), <http://www.mofcom.gov.cn/article/ae/ag/201710/20171002656667.shtml>.

²⁰⁷ Given the different methods of data collection between Rhodium and AEI, it is impossible to compare the figures directly. AEI compiles data from publicly available or voluntarily submitted information, for all announced investment transactions over \$100 million in value. This data is premised on the entire value of the transaction, including U.S. domestic financing (e.g., bonds and loans) for projects. *China Global Investment Tracker*, AEI, <http://www.aei.org/china-global-investment-tracker/> (last visited Nov. 7, 2018). For its part, Rhodium collects data through publicly available or voluntarily submitted information, for completed direct investment transactions valued at \$500,000 or more. Transaction values are based on the entire value of the transaction, including U.S. domestic financing (e.g., bonds and loans) for projects. *China Investment Monitor*, RHODIUM GROUP, <http://rhg.com/interactive/china-investment-monitor> (last visited Nov. 7, 2018).

²⁰⁸ See also Thilo Hanemann, *Arrested Development: Chinese FDI in the US in 1H 2018*, RHODIUM GROUP (June 19, 2018), <https://rhg.com/research/arrested-development-chinese-fdi-in-the-us-in-1h-2018/>.

²⁰⁹ MINISTRY OF COMMERCE, NATIONAL STATISTICS BUREAU, AND STATE ADMINISTRATION OF FOREIGN EXCHANGE, THE PEOPLE’S REPUBLIC OF CHINA, 2017 CHINA FOREIGN DIRECT INVESTMENT STATISTICAL REPORT [Chinese] (Sep. 28, 2018), at 97 (reporting \$6.43 billion of Chinese investment in the United States in 2017, a year-on-year decrease of 62.1%).

B. Actions by the United States and Other Trading Partners to Enhance Investment Review Processes

The United States and other trading partners have taken steps to enhance their national security-related investment review processes – in part, to address concerns over Chinese outbound investment. These efforts may have contributed to the overall decline in Chinese OFDI in 2017 and 2018.

1. Actions by the United States

The United States has highlighted national security-related concerns regarding Chinese outbound investment for some time, and has increasingly taken direct action. The President recently signed into law legislation that expands the jurisdiction and authority of the Committee on Foreign Investment in the United States (CFIUS) to review transactions raising potential national security concerns.²¹⁰ This legislation, the Foreign Investment Risk Review Modernization Act of 2018 (FIRRMA), Subtitle A of Title XVII of Pub. L. 115-232 (Aug. 13, 2018),²¹¹ amends section 721 of the Defense Production Act of 1950 (DPA).²¹² CFIUS recently launched a pilot program to implement several of these new authorities with respect to certain categories of transactions, pending full implementation of FIRRMA.²¹³

Moreover, CFIUS has continued to fulfill its longstanding mandate and vigilantly review mergers, acquisitions, and takeovers from all countries – including China – based on national security considerations. In 2017 and 2018, the President prohibited two transactions following CFIUS review.²¹⁴ In addition, reports suggest that a significant number of transactions may not have been entered into due to concerns about possible CFIUS review, or were abandoned after CFIUS began its review.²¹⁵

2. Actions by Other Trading Partners

Several of the United States' trading partners have worked to enhance their investment review processes. In particular, the EU has taken steps to help coordinate and improve Member State

²¹⁰ Press Release, U.S. Department of the Treasury, Treasury Secretary Mnuchin Statement on Signing of FIRRMA to Strengthen CFIUS (Aug. 13, 2018), <https://home.treasury.gov/news/press-releases/sm457>.

²¹¹ Foreign Investment Risk Review Modernization Act of 2018, Pub. L. No. 115-232, tit. XVII, Subtitle A, 132 Stat. 2289.

²¹² 50 U.S.C. § 4565.

²¹³ Determination and Temporary Provisions Pertaining to a Pilot Program to Review Certain Transactions Involving Foreign Persons and Critical Technologies, 83 Fed. Reg. 51322 (Oct. 11, 2018).

²¹⁴ Executive Order Regarding the Proposed Takeover of Qualcomm Incorporated by Broadcom Limited, 83 Fed. Reg. 11631 (Mar. 12, 2018); Executive Order Regarding the Proposed Acquisition of Lattice Semiconductor Corporation by China Venture Capital Fund Corporation Ltd., 82 Fed. Reg. 43665 (Sep. 13, 2017).

²¹⁵ See, e.g., Thilo Hanemann and Daniel H. Rosen, *Chinese FDI in the US in 2017: A Double Policy Punch*, RHODIUM GROUP (Jan. 17, 2018), <https://rhg.com/research/chinese-fdi-us-2017-double-policy-punch/> (contending that CFIUS concerns played a supporting role in declining OFDI in 2017, but that “2018 will be a different story” given possible passage of FIRRMA, and noting that a series of “deal failures” in 2017 and 2018 suggest that “CFIUS concerns are already swelling”); *Chinese Investing Nine Times More in Europe Than North America as Policies Force Divergence*, BAKER MCKENZIE (July 16, 2018) (reporting that in the first half of 2018, seven deals were canceled in the United States due to “unresolved CFIUS concerns”).

mechanisms for screening foreign investment. The official website of the European Parliament describes these steps as follows:

The EU has no single foreign direct investment (FDI) screening mechanism comparable to well-established schemes in Australia, Canada, Japan, and the USA. Currently, less than half of EU Member States have legislation in place that allows them to review FDI on grounds of national security or public order in line with their commitments under international and EU law. In its May 2017 Reflection paper on Harnessing Globalisation the European Commission stressed the need for the EU to maintain an open investment environment, but acknowledged increasing concerns about changing FDI patterns and the need to defend the EU's essential interests.

On 13 September 2017 the European Commission published a proposal for a regulation establishing a legal framework for the screening of FDI inflows into the EU. Parliament's Committee on international trade (INTA) adopted its report on 28 May 2018 as well as the decision to enter into inter-institutional (trilogue) negotiations. As there were no requests for a vote in Parliament, INTA was authorised to start negotiations based on the INTA report. On 13 June 2018, the permanent representatives of the EU Member States agreed on the Council's position. The first trilogue took place on 10 July 2018, the second on 27 September 2018, and the third on 11 October 2018.²¹⁶

In its proposal, the European Commission seeks:

- “to create an enabling legal framework which embraces the diversity of Member States’ approaches to FDI screening and their exclusive responsibility for national security, while taking into account the EU’s competence for FDI;”
- “to introduce a new Commission competence to screen FDI and issue a non-binding opinion, if i) an FDI in a Member State may affect the security or public order of projects or programmes “of Union interest” in the areas of research, space, transport, energy and telecommunications; ii) an FDI in a Member State may affect the security or public order of another/other Member State/s;” and
- “to create a cooperation mechanism between Member States and the Commission which aims to enhance the coordination of screening decisions taken by the Member State/s concerned and to increase the awareness of Member States and the Commission about planned or completed FDI that may affect security or public order by way of exchanges of information.”²¹⁷

²¹⁶ *Legislative Train Schedule – A Balanced and Progressive Trade Policy to Harness Globalisation – Screening of Foreign Direct Investment in Strategic Sectors*, EUROPEAN PARLIAMENT, <http://www.europarl.europa.eu/legislative-train/theme-a-balanced-and-progressive-trade-policy-to-harness-globalisation/file-screening-of-foreign-direct-investment-in-strategic-sectors> (last visited Nov. 19, 2018).

²¹⁷ *Legislative Train Schedule – A Balanced and Progressive Trade Policy to Harness Globalisation – Screening of Foreign Direct Investment in Strategic Sectors*, EUROPEAN PARLIAMENT.

By the end of 2018, the European Commission intends to “carry out an in-depth analysis of FDI flows into the EU” which “will focus on strategic sectors and assets whose control may raise security or public order concerns.”²¹⁸

In parallel with these efforts at the EU level, individual EU member states are also taking actions to improve their investment screening mechanisms. In July 2017, Germany amended its *Foreign Trade and Payments Ordinance* to clarify which industry sectors implicate national security concerns and are thus more likely to trigger a foreign investment review.²¹⁹ Germany is now considering additional measures that would lower the threshold amount for government review of inbound acquisitions by non-EU investors from the current 25% ownership stake to 15%.²²⁰

News sources reported in late October 2018 that the Federation of German Industries (BDI), a leading German industry association, had drafted a 25-page China position paper that calls on German companies to reduce their dependence on China.²²¹ The position paper reportedly calls for “a new EU instrument to prevent state-subsidized takeovers, including requiring Chinese firms to present accounts based on internationally agreed standards when acquiring European firms so their ownership structures and financing can be vetted.”²²² The BDI also reportedly calls for “closer coordination on China strategy within the German government and between the EU and like-minded partners, including the United States.”²²³

France and the United Kingdom have also taken actions similar to those in Germany. In May 2014, the French government issued a decree permitting the government to block foreign takeovers of French firms in strategic sectors.²²⁴ In June 2018, the UK government amended the *Enterprise Act 2002* to lower the screening threshold for proposed foreign acquisitions of companies developing military and dual-use technology, computer hardware and quantum technology.²²⁵ In July 2018, the UK government released a white paper entitled *National Security and Investment: A Consultation on Proposed Legislative Reforms* that sets out the government’s intent to further reform its investment screening regime to “protect national

²¹⁸ *Legislative Train Schedule – A Balanced and Progressive Trade Policy to Harness Globalisation – Screening of Foreign Direct Investment in Strategic Sectors*, EUROPEAN PARLIAMENT.

²¹⁹ Jana Dammann de Chaptot, Joachim Grittmann, *German Government Increases Foreign Investment Oversight*, LATHAM & WATKINS CLIENT ALERT (July 19, 2017), <https://www.lw.com/thoughtLeadership/lw-german-government-increases-foreign-investment-oversight>. See also Erik Brattberg and Etienne Soula, *Is Europe Finally Pushing Back on Chinese Investments?*, THE DIPLOMAT, Sep. 14, 2018, <https://thediplomat.com/2018/09/is-europe-finally-pushing-back-on-chinese-investments/> (stating that the July 2017 amendment will “allow Berlin to screen and ultimately block a wider range of foreign takeovers.”)

²²⁰ *Germany Plans Tighter Scrutiny of Foreign Investments in Defense*, REUTERS, Aug. 8, 2018, <https://www.reuters.com/article/us-germany-m-a/germany-plans-tighter-scrutiny-of-foreign-investments-in-defense-idUSKBN1KT17C>.

²²¹ Noah Barkin, *Exclusive: German Firms Urged to Cut Dependence on China*, REUTERS, Oct. 31, 2018, <https://in.reuters.com/article/germany-china-report/exclusive-german-firms-urged-to-cut-dependence-on-china-idINKCN1N51H9>.

²²² Noah Barkin, *Exclusive: German Firms Urged to Cut Dependence on China*, REUTERS, Oct. 31, 2018.

²²³ Noah Barkin, *Exclusive: German Firms Urged to Cut Dependence on China*, REUTERS, Oct. 31, 2018.

²²⁴ Jean-Baptiste Vey and Benjamin Mallet, *France Boosts Say on GE Bid for Alstom with Takeover Law*, Reuters, May 15, 2014.

²²⁵ Department for Business, Energy and Industrial Strategy, *New Merger and Takeover Rules Come into Force*, Gov.UK, June 11, 2018.

security from hostile actors using ownership of, or influence over, businesses and assets to harm the country.”²²⁶ The white paper notes that the United Kingdom’s reforms take place “as many other governments are also updating their powers in light of the same technological, economic and national security-related changes.”²²⁷

C. China’s Outbound Investment Regime

The available evidence indicates that aggregate Chinese OFDI has also declined because China has curtailed investments in certain non-strategic sectors, to channel private and public resources towards high-technology sectors designated in its industrial policies.

1. Outbound Investment Approvals and Their Influence on Investment Decisions

As detailed in the Section 301 Report, despite two decades of reforms, China continues to use various tools to direct and/or unfairly facilitate outbound investment. The latest measure through which China exercises such authority is the *Measures on the Administration of Enterprise Outbound Investment* (“2018 NDRC Approval Measures”).²²⁸ The 2018 NDRC Approval Measures are beginning to factor into company-level decisions regarding outbound investment.²²⁹

The 2018 NDRC Approval Measures have served to curtail outbound investment in certain non-strategic sectors by classifying them as “sensitive investment projects,” which increases the regulatory burden to obtain government approval.²³⁰ Corresponding to this provision is an updated *Sensitive Industry Catalogue*,²³¹ which was released on January 31, 2018, and took effect on March 1, 2018 – the same day that the 2018 NDRC Approval Measures went into effect. The *Sensitive Industry Catalogue* includes a wide range of industries that are classified as

²²⁶ SECRETARY OF STATE FOR BUSINESS, ENERGY AND INDUSTRIAL STRATEGY BY COMMAND OF HER MAJESTY, NATIONAL SECURITY AND INVESTMENT: A CONSULTATION ON PROPOSED LEGISLATIVE REFORMS (Presented to Parliament in July 2018), at 9, https://beis.gov.uk.citizenspace.com/ccp/hsi/supporting_documents/20180723%20%20National%20security%20and%20investment%20%20final%20version%20for%20printing%201.pdf.

²²⁷ SECRETARY OF STATE FOR BUSINESS, ENERGY AND INDUSTRIAL STRATEGY BY COMMAND OF HER MAJESTY, NATIONAL SECURITY AND INVESTMENT: A CONSULTATION ON PROPOSED LEGISLATIVE REFORMS 9 (Presented to Parliament in July 2018).

²²⁸ *Measures on the Administration of Enterprise Outbound Investment* (NDRC, Order No. 11, issued Dec. 26, 2017, effective Mar. 1, 2018). These measures replace the 2014 *Measures on the Administration of Examination and Approval and Filing-for-Records of Overseas Investment Projects* (NDRC, 2014 Order No. 9, issued Apr. 8, 2014) (2014 NDRC Approval Measures).

²²⁹ For example, Fujian Xing Wang Rui Jie Telecommunication Holding Co., Ltd. updated its “Foreign Investment Administrative Measures,” according to a March 30, 2018 filing. In the measures, the company cites to the 2018 NDRC Approval Measures as part of the basis of its internal “Foreign Investment Administrative Measures.” The company further states its investments will “revolve[] around the State’s overseas investment guidance and be in accordance with the State’s overseas investment industrial policy.” *Fujian Xing Wang Rui Jie Telecommunication Holding Co., Ltd. updated its “Foreign Investment Administrative Measures,”* <http://disclosure.szse.cn/finalpage/2018-03-30/1204543719.PDF>.

²³⁰ 2018 NDRC Approval Measures, Art. 13.

²³¹ *National Development and Reform Commission Notice on Issuing the Overseas Investment Sensitive Industry Catalogue (2018 Edition)* (NDRC, Gai Ge Wai Zi [2018] No. 251, issued Jan. 31, 2018).

“sensitive,” including (1) real estate, (2) hotels, (3) movie studios, (4) the amusement industry, (5) sports clubs, and (6) “the establishment of equity investment funds or investment platforms outside China that are for non-specific commercial projects.”²³² Due to their classification as “sensitive industries,” investments in these industries must go through additional examination and approval.²³³ Notably, none of these ostensibly “sensitive” industries falls within areas such as biotechnology or robotics that are targeted by industrial policies like Made in China 2025.

China’s expansive definition of “sensitive” sectors, and the resulting discouragement and tighter regulation of OFDI in sectors such as real estate, entertainment, hospitality, tourism, and sports clubs, has likely contributed to lower Chinese OFDI growth.²³⁴ Data from the *2017 China Foreign Direct Investment Statistical Report* shows that between 2016 and 2017, Chinese OFDI in real estate decreased by 55.1%. Similarly, in residential services, OFDI decreased by 65.5%, and in culture, sports and entertainment, by 93.3%.²³⁵ These decreases occurred alongside a series of highly publicized government enforcement actions against companies such as Dalian Wanda, HNA and Anbang Insurance, which were known for their aggressive international deal-making in these sectors.²³⁶ These restrictions have reportedly had a significant impact on Chinese OFDI in the United States.²³⁷

As the Section 301 Report found, these types of restrictions on commercial outbound investment create an incentive for Chinese investors to orient their investments toward industries favored by industrial plans and other government policies, especially when viewed in conjunction with China’s closed capital account, which allows government authorities to restrict access to foreign exchange and limit outbound investment flows.

An illustrative example is the recent acquisition of NEV manufacturer Faraday Future (FF) by Evergrande Health. Evergrande Health is the Hong Kong-listed²³⁸ subsidiary of China’s largest real estate company, Evergrande Real Estate Group.²³⁹ While the group itself is private and controlled by its chairman, Xu Jiayin, Xu Jiayin has been the chairman of his company’s CCP

²³² *Overseas Investment Sensitive Industry Catalogue (2018)*, Section 4.

²³³ *2018 NDRC Approval Measures*, Art. 13.

²³⁴ See also *Chinese Investing Nine Times More in Europe than North America as Policies Force Divergence*, BAKER MCKENZIE, July 16, 2018 (stating that “The initial decline in Chinese OFDI was primarily caused by Chinese regulatory tightening over outward investments. Facing large capital outflows, Beijing began to crack down on outbound FDI in the second half of 2016.”).

²³⁵ *2017 China Foreign Direct Investment Statistical Report* 96 (Table 6) (Ministry of Commerce, National Statistics Bureau, and State Administration of Foreign Exchange, published Sep. 28, 2018).

²³⁶ See, e.g., Sumeet Chatterjee and Matthew Miller, *China’s Latest Conglomerate Crackdown Casts Dealmaking Shadow*, REUTERS, Mar. 2, 2018; Wei Lingling and Deng Chao, *Xi’s Sign-off Deals Blow to China Inc.’s Global Spending Spree; Measure is a Warning to China’s Other Big Private Businesses that Loaded up on Debt to Buy Assets Overseas*, WALL ST. J., July 23, 2017.

²³⁷ See, e.g., Thilo Hanemann and Daniel H. Rosen, *Chinese FDI in the US in 2017: A Double Policy Punch*, RHODIUM GROUP, Jan. 17, 2018 (stating that “Some of the restricted sectors have been important drivers of Chinese FDI in the US in recent years, including real estate and hospitality (which accounted for 36% of total US investment in the past 3 years) and sports and entertainment (another 7% of total investment in the past 3 years).”).

²³⁸ Hong Kong Stock Exchange: 0708, <http://www.hkex.hk.com>.

²³⁹ Hong Kong Stock Exchange: 3333, <http://www.hkex.hk.com>. See also *Real Estate 25 2018: The Most Valuable Real Estate Brands of 2018*, BRAND FINANCE, http://brandirectory.com/league_tables/table/real-estate-25-2018 (last visited Nov. 19, 2018).

cadre since its establishment in 2002,²⁴⁰ and he has made public his belief in the CCP, stating “everything that Evergrande and I have, it is all given by the Party, given by the State, given by society.”²⁴¹

In November 2017, Evergrande Health agreed to invest \$2 billion for a 45% share in FF,²⁴² and the deal was finalized in June 2018.²⁴³ Based in Southern California, FF seeks to produce high-end NEVs to compete with Tesla.²⁴⁴ Evergrande’s focus on acquiring technology is evident in the press release announcing the acquisition, which claimed that “by taking control of FF, Xu Jiaying [Evergrande’s owner] will bring the peak of world technology into China, greatly improving the core competitiveness of China’s vehicle engine industry.”²⁴⁵ Evergrande’s financial report for the first half of 2018 includes an entire section about the FF investment and its role in providing Evergrande new technology²⁴⁶ and diversifying Evergrande’s sector portfolio.²⁴⁷ Evergrande also emphasizes that FF, between its U.S. and Chinese operations, has already acquired 380 patents.²⁴⁸

NEVs are a major focus of China’s industrial policies, including the *Energy-Saving and New-Energy Automotive Industry Development Plan (2012-2020)*,²⁴⁹ Strategic Emerging Enterprises,²⁵⁰ and Made in China 2025.²⁵¹ Evergrande cites China’s industrial policies, particularly Made in China 2025, as a chief rationale for investing in FF.²⁵² A Chinese

²⁴⁰ *Party Building Work* [Chinese], CHINA EVERGRANDE GROUP, <http://www.evergrande.com/about.aspx?tags=8> (last visited Nov. 8, 2018).

²⁴¹ *The Eight Time Consecutive Winner of the “China Charity Award,” Xu Jiaying, at the Hall of the People’s National Congress Discusses Charity and Gratitude* [Chinese], XINHUA NEWS, Sep. 14, 2018, http://www.xinhuanet.com/2018-09/14/c_1123429501.htm.

²⁴² *FF Statement of Evergrande Health Investment*, FARADAY FUTURE, Oct. 8, 2018, <https://www.ff.com/us/press-room/faraday-future-evergrande-statement/> (last visited Nov. 8, 2018). Zhao Chao, *State Automobile National Power Strategy Adds “Capable” Evergrande Dominating FF in Forcefully Entering the High-Technology Industry* [Chinese], GUANGXI DAILY, June 27, 2018, http://www.gxst.gov.cn/gxkj/dttx/20180627/001002_334d528d-dbd0-4d11-a054-546e8f065775.htm.

²⁴³ *California Based Faraday Future Confirms \$2 Billion (USD) in First Round Funding and Clears Government Approval*, FARADAY FUTURE (June 25, 2018), <https://www.ff.com/us/press-room/funding/>.

²⁴⁴ Clare Jim, *Evergrande Health Slumps as EV Maker Faraday Seeks to Scrap Stake Sale*, REUTERS, Oct. 8, 2018, <https://www.reuters.com/article/us-everg-health-lawsuit-faraday-future/evergrande-health-slumps-as-ev-maker-faraday-seeks-to-scrap-stake-sale-idUSKCN1MI0SK> (last visited Nov. 8, 2018).

²⁴⁵ *Taking Control of FF’s New Energy Vehicle Structure, Evergrande Acquires the Peak of Global Technology as it Enters Production in Guangzhou* [Chinese], CHINA EVERGRANDE GROUP (July 4, 2018), <http://cs.evergrande.com/Newsshow.php?cid=22&id=1433> (last visited Nov. 8, 2018).

²⁴⁶ CHINA EVERGRANDE GROUP, 2018 MID TERM REPORT [Chinese] (Aug. 8, 2018), at 7.

²⁴⁷ CHINA EVERGRANDE GROUP, 2018 MID TERM REPORT [Chinese] (Aug. 8, 2018), at 7.

²⁴⁸ CHINA EVERGRANDE GROUP, 2018 MID TERM REPORT [Chinese] (Aug. 8, 2018), at 7.

²⁴⁹ *Energy-Saving and New-Energy Automotive Industry Development Plan (2012-2020)* (State Council, Guo Fa [2012] No. 22, issued June 28, 2012).

²⁵⁰ *Notice on Issuing the 13th Five-year National Strategic Emerging Industries Development Plan* (State Council, Guo Fa [2016] No. 67, issued Nov. 29, 2016).

²⁵¹ *Notice on Issuing “Made in China 2025”* (State Council, Guo Fa [2015] No. 28, issued May 8, 2015).

²⁵² *Taking Control of FF’s New Energy Vehicle Structure, Evergrande Acquires the Peak of Global Technology as it Enters Production in Guangzhou* [Chinese], CHINA EVERGRANDE GROUP (July 4, 2018), <http://cs.evergrande.com/Newsshow.php?cid=22&id=1433> (last visited Nov. 8, 2018).

automotive industry expert also pointed out the importance of the deal to the Made in China 2025 policy and China's ambitions to catch up with world-leading automakers, stating:

Currently, the large gap between the technology of domestic electric vehicle enterprises and global leaders is obvious. By becoming the dominant player in FF, Evergrande comprehensively masters world-leading technology and is able to synchronize the sharing of research and development, which will help China realize its strategic goal of becoming a strong automotive nation.²⁵³

After Evergrande made its initial \$800 million payment, FF and Evergrande came into conflict. According to a press release issued by FF, the conflict centered around Evergrande withholding future payments, and blocking FF from seeking other financing, claiming “Evergrande held the payments back to try to gain control and ownership over FF China and all of FF’s IP.”²⁵⁴ FF further stated that “Evergrande’s breach in its funding obligations, and its attempts to prevent FF from obtaining other investments or even using its assets to obtain short-term financing, caused a serious and unexpected cash shortfall that led us to take immediate steps to re-evaluate business priorities.”²⁵⁵

2. Major Policies and State-Backed Actors

Since the publication of the Section 301 report, China has continued to pursue its major policies to acquire foreign technology. For example, the State Council’s August 2017 *Guiding Opinion on Further Guiding and Standardizing the Direction of Foreign Investment* (“2017 Investment Opinion”) remains in place, calling for “catalyzing the ‘Going Out’ strategy for products, technologies, and services,” while restricting or prohibiting investment in real estate and other sectors disfavored by the government.²⁵⁶ Significantly, in October 2018 the state-owned *People’s Daily* newspaper published an article entitled *The Major Trend of Chinese Enterprises ‘Going Out’ Has Not Changed*.²⁵⁷ The article emphasizes the growth in Chinese outbound investment in the first nine months of 2018 (based on MOFCOM statistics), including 265 “acquisition projects” worth \$43.3 billion, spread across 49 countries including advanced economies such as France and Germany.²⁵⁸ The article highlights the government’s One Belt

²⁵³ Zhao Chao, *State Automobile National Power Strategy Adds “Capable” Evergrande Dominating FF in Forcefully Entering the High-Technology Industry* [Chinese], GUANGXI DAILY, June 27, 2018, http://www.gxst.gov.cn/gxkjt/dttx/20180627/001002_334d528d-dbd0-4d11-a054-546e8f065775.htm (last visited Nov. 8, 2018).

²⁵⁴ *FF Statement of Evergrande Health Investment*, FARADAY FUTURE, Oct. 8, 2018, <https://www.ff.com/us/press-room/faraday-future-evergrande-statement/> (last visited Nov. 8, 2018).

²⁵⁵ *Faraday Future Decisive Victory on Its Emergency Relief Application*, FARADAY FUTURE, Oct. 25, 2018, <https://www.ff.com/us/press-room/emergency-arbitration-victory/> (last visited Nov. 8, 2018).

²⁵⁶ *Guiding Opinion on Further Guiding and Standardizing the Direction of Foreign Investment*, preamble (NDRC, MOFCOM, People’s Bank of China, Ministry of Foreign Affairs, issued by the State Council in Guo Ban Fa [2017] No. 74 on Aug. 4, 2017) (emphasis added).

²⁵⁷ *The Major Trend of Chinese Enterprises ‘Going Out’ Has Not Changed* [Chinese], PEOPLE’S DAILY FOREIGN EDITION (via gov.cn), Oct. 19, 2018.

²⁵⁸ *The Major Trend of Chinese Enterprises ‘Going Out’ Has Not Changed* [Chinese], PEOPLE’S DAILY FOREIGN EDITION (via gov.cn), Oct. 19, 2018.

One Road initiative as a catalyst for China's outbound investments, while also lauding the "effective suppression of irrational investments."²⁵⁹

State-backed actors also continue to constitute a prominent feature of China's outbound investment activity. SOEs remain prevalent throughout the Chinese economy, and are market leaders in key sectors deemed strategic by the government. As the Section 301 Report detailed, SOEs are subject to state direction and control, in particular those central SOEs administered by the State Council's State-owned Assets Supervision and Administration Commission (SASAC). Through the CCP, the Chinese government exercises additional control over both SOEs and nominally private companies.

State-backed funds and investment companies continue to represent an important feature of China's financial sector, as illustrated by the recent activities of the National Integrated Circuit (IC) Fund. As described in the Section 301 Report, the National IC Fund was established in 2014 to upgrade China's industrial capacity and support the development of an indigenous IC industry. The National IC Fund achieves this, in part, by supporting overseas investment and technology acquisition. The fund has been linked with numerous technology-related outbound investments in the United States. In May 2018, official Chinese media reported that the National IC Fund was preparing to raise a second round of funding, targeted at about CNY 150-200 billion²⁶⁰ (\$23-\$30 billion). There have also been new National IC Fund partnerships with local governments in China; for example, in June 2018, the National IC Fund and Wuxi City signed a strategic agreement,²⁶¹ and in September 2018, Chongqing City established a local CNY 50 billion (\$7.6 billion) IC Fund.²⁶²

D. China Is Increasingly Focusing on Venture Capital Investment

1. Trends in Chinese Venture Capital Investment in the United States

China continues to explore new means of securing cutting-edge technologies and intellectual property. Analysis based on multiple data sources suggests that, since the release of the Section 301 Report, China's sustained interest in acquiring technology in the United States increasingly relies upon VC investment.²⁶³

²⁵⁹ *The Major Trend of Chinese Enterprises 'Going Out' Has Not Changed* [Chinese], PEOPLE'S DAILY FOREIGN EDITION (via gov.cn), Oct. 19, 2018.

²⁶⁰ *National Big Fund Is Raising Phase Two, Hundreds of Billions Deployed to the IC Industry Supply Chain* [Chinese] XINHUA NEWS, May 3, 2018, http://www.xinhuanet.com/money/2018-05/03/c_129863730.htm (last visited Nov. 13, 2018).

²⁶¹ *The City Signed a Strategic Agreement with the National Integrated Circuit Industry Investment Fund* [Chinese], WUXI MUNICIPAL GOVERNMENT, posted on the Wuxi municipal government website on June 12, 2018 at stc.wuxi.gov.cn/doc/2018/06/12/1865063.shtml (last visited Nov. 13, 2018).

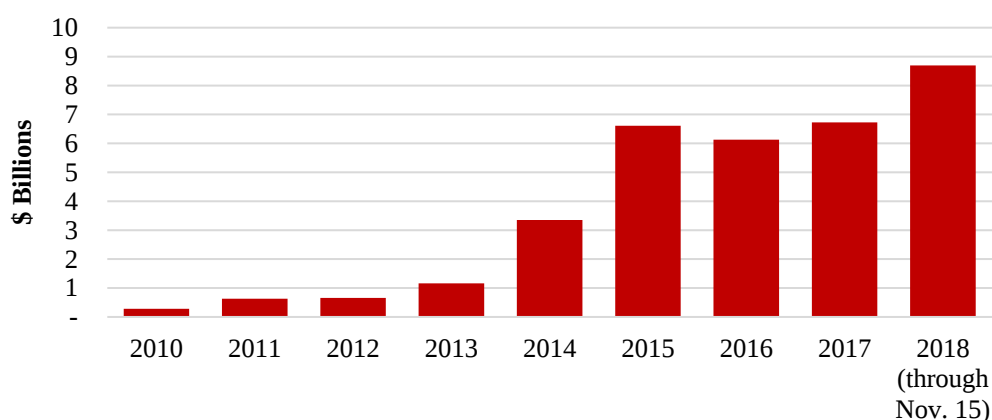
²⁶² *Chongqing: Establishes CNY 50 Billion Fund to Support Integrated Circuit Industry Development* [Chinese] XINHUA NEWS, article posted on the State Council's website on Sep. 1, 2018 at http://www.gov.cn/xinwen/2018-09/01/content_5318367.htm (last visited Nov. 13, 2018).

²⁶³ Multiple recent media articles discuss this trend, including: Kate O'Keeffe and Eliot Brown, *China Targets U.S. Tech Startups in Investment Loophole*, WALL ST. J., July 16, 2018, <https://www.wsj.com/articles/china-targets-u-s-tech-startups-in-investment-loophole-1531742441>; Jackie Northam, *China Makes a Big Play in Silicon Valley*, NPR, Oct. 7, 2018, <https://www.npr.org/2018/10/07/654339389/china-makes-a-big-play-in-silicon-valley>; Don Weinland,

According to Rhodium Group data, Chinese VC investment in the United States from January to May 2018 reached almost \$2.4 billion, equivalent to the previous full-year high set in 2015.²⁶⁴ Similarly, investment data compiled by Bloomberg show that the value of VC deals with at least one Chinese-domiciled investor has increased in 2018, reaching a record high by November 15, 2018 (see **Figure 1**).

As this data makes clear, Chinese VC investors are increasingly active in the U.S. VC ecosystem. Analysts estimate that Chinese investors participated in 10-16% of all venture deals in the United States between 2015 and 2017.²⁶⁵ According to Bloomberg data, Chinese VC investors have participated in 151 deals through November 15, 2018, which roughly matches the pace set in 2017 when Chinese investors participated in an all-time high of 167 deals (see **Figure 2**).

Figure 1 – Value of VC Investment Deals in the United States Involving at Least One Chinese Investor (\$ Billions)



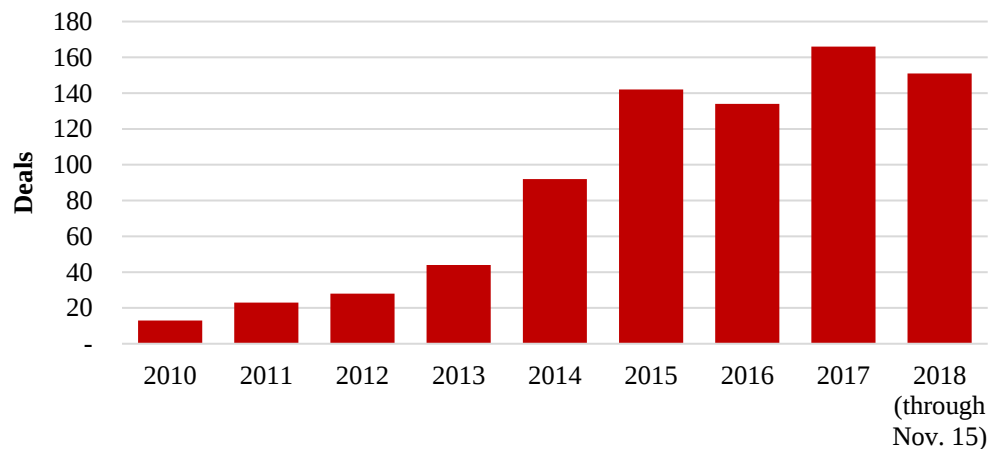
Source: Bloomberg.

Chinese VC Funds Pour \$2.4bn into Silicon Valley Start-ups, FINANCIAL TIMES, July 18, 2018, <https://www.ft.com/content/463b162a-8a3d-11e8-b18d-0181731a0340>.

²⁶⁴ Thilo Hanemann, Adam Lysenko, and Daniel H. Rosen, *Chinese Venture Capital in the US in 1H 2018: Still Going Strong*, RHODIUM GROUP (July 13, 2018). See also Kate O’Keeffe and Eliot Brown, *China Targets U.S. Tech Startups in Investment Loophole*, WALL ST. J., July 16, 2018.

²⁶⁵ Michael Brown and Pavneet Singh, *China’s Technology Transfer Strategy: How Chinese Investments in Emerging Technology Enable a Strategic Competitor to Access the Crown Jewels of U.S. Innovation*, DEFENSE INNOVATION UNIT EXPERIMENTAL (DIUX) (Jan. 2018), at 2. See also Jackie Northam, *China Makes a Big Play in Silicon Valley*, NPR, Oct. 7, 2018 (citing Adam Lysenko, a senior analyst at Rhodium Group, as saying “Chinese investment accounts for about 15 percent of the deals [in startup technology companies].”).

**Figure 2 – Number of VC Investment Deals
in the United States Involving at Least One Chinese Investor
(Deals)**



Source: Bloomberg.

Significantly, the sectoral focus of China’s VC investors in the United States aligns with the Chinese government’s continued focus on acquiring emerging technologies via foreign investment and international engagement. China’s VC investment in the United States began in earnest in 2014 and has historically been focused on the information and communication technology (ICT) sector. While investment in the ICT sector remains strong, Chinese VC investors in the United States have demonstrated growing interest in emerging sectors identified as strategic priorities by Chinese government industrial policies and plans. These sectors include robotics and artificial intelligence (AI), and especially biotechnology, which accounts for much of the increase in Chinese VC activity in the United States in recent years.²⁶⁶

Other reports have noted the sectoral focus of Chinese VC investment in the United States. In its January 2018 report, the Defense Innovation Unit Experimental (DIUx) sheds light on the sectoral focus of recent Chinese VC investment in the United States:

- AI: Between 2010 and 2017, Chinese investors participated in eighty-one AI financings, contributing to the roughly \$1.3 billion in total financing that was raised. Participation accelerated in 2014 and has continued through the end of the third quarter of 2017, with Chinese investors active in sixty-nine deals and \$1.2 billion in financing.
- Robotics: Chinese entities were active in nearly \$237 million of financing for robotics startups between 2010 and 2017. Deal activity peaked in 2015, with Chinese participation in twelve deals and \$113 million in financing.

²⁶⁶ According to Bloomberg data, the value of VC investment deals in the U.S. biotechnology sector involving at least one Chinese investor increased from \$690 million in 2016 to \$1.53 billion in 2017, and has already exceeded \$2.2 billion in 2018 through November 15, 2018.

- Augmented Reality/Virtual Reality (AR/VR): Chinese investors participated in \$2.1 billion worth of deals during the period 2010-2017. In 2016, China-based investors participated in seventeen deals, contributing to the \$1.3 billion in total funding value.
- Financial Technology (Fintech): Investments in Fintech continued their rapid pace in 2016 and 2017 with Chinese investors participating in forty-nine deals, valued at approximately \$1.4 billion. Overall, Chinese investors have participated in 100 deals, representing \$3.5 billion in funding for Fintech companies during 2010-2017.²⁶⁷

2. The Significance of Venture Capital Investment for Technology and Intellectual Property Acquisition

Chinese VC investment in the United States can play a significant role in technology transfer. According to the National Venture Capital Association (NVCA):

[T]ypically a venture capitalist becomes intimately involved at a policy-making level in a company he or she invests in, including taking a seat on the board of directors, acting as a coach and close confidant to the CEO, providing strategic counsel regarding development and production, making introductions to key contacts, and facilitating strategic partnerships that will help the company achieve success.²⁶⁸

Numerous academic studies have shown that VC firms have been linked to technology diffusion, especially between a VC firm's various portfolio companies.²⁶⁹ VC firms often encourage their portfolio companies to participate in research alliances,²⁷⁰ which have been shown to diffuse knowledge.²⁷¹ VC firms also facilitate the movement of human resources across their networks, which diffuses technology and knowledge.²⁷² The movement of human resources is critical because for some emerging technologies, most of the "technology" is in fact know-how.²⁷³

²⁶⁷ Michael Brown and Pavneet Singh, *China's Technology Transfer Strategy: How Chinese Investments in Emerging Technology Enable a Strategic Competitor to Access the Crown Jewels of U.S. Innovation*, DEFENSE INNOVATION UNIT EXPERIMENTAL (DIUX) (Jan. 2018), at 7.

²⁶⁸ *Funding Innovation*, NATIONAL VENTURE CAPITAL ASSOCIATION, <https://nvca.org/ecosystem/funding-innovation/> (last visited Nov. 6, 2018).

²⁶⁹ Juanita Gonzalez-Urbe, *Venture Capital and the Diffusion of Knowledge*, COLUMBIA GRADUATE SCHOOL OF BUSINESS 3 (Feb. 2013) (stating that "the increase in portfolio-linked citations is four times stronger than the increase in non-portfolio-linked citations.").

²⁷⁰ Laura Lindsey, *Blurring Firm Boundaries: The Role of Venture Capital in Strategic Alliances*, 63 (3) JOURNAL OF FINANCE 1137-1168 (June 2008).

²⁷¹ Thomas Hellmann, Manju Puri, *Venture Capital and the Professionalization of Start-Up Firms: Empirical Evidence*, 58 (1) JOURNAL OF FINANCE 169-198 (Feb. 2002).

²⁷² Benjamin Gomes-Casseres, John Hagedoorn, and Adam B. Jaffe, *Do Alliances Promote Knowledge Flows?* 80(1) JOURNAL OF FINANCIAL ECONOMICS 5-33 (Apr. 2006).

²⁷³ *China's Threat to American Government and Private Sector Research and Innovation Leadership: Hearing Before the House Permanent Select Committee on Intelligence*, 115th Cong. (2018) (statement of Elsa B. Kania) (stating that "if there is a U.S.-China 'AI arms race' today, then the primary battlefield is talent." In her testimony, Kania also cites Elsa Kania, *The Pursuit of AI Is More Than an Arms Race*, DEFENSE ONE (Apr. 19, 2018)).

Researchers estimate that VC investment accounts for about 14% of U.S. innovative activity (*i.e.*, patent production).²⁷⁴

The openness at the heart of the VC model allows the possibility of exploitation by foreign governments. Small investments for minority stakes by state-backed Chinese VC firms can enable Chinese government access to cutting-edge U.S. technology and private technology-related information. U.S. business leaders, technology industry experts, and China experts have emphasized this risk. For instance:

- Bryan Ware, CEO of Haystack Technology, which works with law enforcement, defense and intelligence clients on securing their technologies, was recently quoted as follows:

If you've got a Chinese investor and that's the lifeblood that's going to allow you to get your product out the door, or allow you to hire your next developer, telling them, "No, you can't do that," or, "No you shouldn't do that," while you have no other alternatives for financing — that's just the nature of the dilemma. [...] Every investment comes with a risk of some loss of intellectual property or foreign influence and control.²⁷⁵

- Adam Lysenko, a senior analyst at Rhodium Group, said: "I think it's become increasingly acknowledged that this risk exists, that venture capital and other minority investments provide Chinese investors to [...] access potentially sensitive technologies, particularly ones that are in ascent, in an early stage where U.S. government, military and other security individuals haven't had a full chance to evaluate the implications of those technologies."²⁷⁶ This access to technology is problematic because of the pervasive control of the Chinese government over Chinese VC firms. As Lysenko noted:

It is very common for Chinese firms to have some sort of ties to the government, and those ties can be in many different forms. It might just be because they have to answer to the government and party leaders back at home. And that [confers on] the state some level of control essentially over every Chinese firm.²⁷⁷

- Elsa B. Kania, Adjunct Fellow at the Technology and National Security Center for a New American Security, also noted:

The potential benefits and negative externalities of these engagements via venture capital and incubation should receive further consideration going forward, given the clear linkages to government priorities and initiatives to advance Chinese indigenous innovation. Even when there is not evidence that a particular mechanism has been exploited thus far for tech transfer in ways that are illegal or obviously concerning,

²⁷⁴ Samuel Kortum and Josh Lerner, *Assessing the Contribution of venture capital to innovation*, 31(4) RAND JOURNAL OF ECONOMICS 674-692 (Winter 2000).

²⁷⁵ Cory Bennett and 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>.

²⁷⁶ Jackie Northam, *China Makes a Big Play in Silicon Valley*, NPR, Oct. 7, 2018.

²⁷⁷ Jackie Northam, *China Makes a Big Play in Silicon Valley*, NPR, Oct. 7, 2018.

the access to and knowledge of prioritized technologies can still be beneficial to future targeting and acquisitions. Potentially, as Chinese investments are subjected to greater scrutiny, the focus of tactics for tech transfer could shift further towards these alternative techniques for access to tech and talent resources via accelerators and innovation centers. Again, the factor that should raise questions and differentiate these from purely commercial activities is the consistent government involvement in guidance and direction.²⁷⁸

Some Chinese VC firms make no secret of their intention to access U.S. technology through VC investment to build Chinese companies in sectors that the Chinese government has deemed strategic. For instance, 6 Dimensions Capital is a healthcare-focused Chinese VC firm with over CNY 10 billion (\$1.5 billion) in assets under management, making it one of the largest healthcare-focused VC firms in the world.²⁷⁹ It is behind much of the recent increase in Chinese VC investment in the U.S. biotechnology sector and touts its “access to innovative startups in the U.S.” as a “proven advantage,”²⁸⁰ having built a portfolio of about 60 companies in the United States and China.²⁸¹ On its website, 6 Dimensions Capital states that it “specializes in the investment of innovative life science companies with business focuses on those strategic life science and technology areas promoted by the Chinese government for growth and

²⁷⁸ *China's Threat to American Government and Private Sector Research and Innovation Leadership: Hearing Before the House Permanent Select Committee on Intelligence*, 115th Cong. (2018) (statement of Elsa B. Kania) (emphasis added).

²⁷⁹ News | 6 Dimensions Capital Closed Oversubscribed 1st USD Fund and RMB Fund, Bringing Total AUM Over RMB 10Bn (USD 1.5Bn), WUXI APPTEC (Dec. 7, 2017), <http://wxpress.wuxiapptec.com/6-dimensions-capital-closed-oversubscribed-1st-usd-fund-rmb-fund-bringing-total-aum-rmb-10bn-usd-1-5bn/>; News | 6 Dimensions Capital Closed Oversubscribed 1st USD Fund and RMB Fund, Bringing Total AUM Over RMB 10Bn (USD 1.5Bn), 6 DIMENSIONS CAPITAL (Dec. 7, 2017), <http://www.6dimensionscapital.com/en/newslist/newsfolder/news-6-dimensions-capital-closed-oversubscribed-1st-usd-fund-and-rmb-fund-bringing-total-aum-over-rmb-10bn-usd-15bn/> (last visited Nov. 16, 2018). In November 2016 China's MIIT issued the *Pharmaceutical Industry Development Planning Guide* (Gong Xin Bu Lian Gui [2016] No. 350), which put forward a “pharmaceutical industry venture capital plan” that called for the mobilization of societal capital to create VC funds totaling over CNY 10 billion (\$1.5 billion) to “provide financial support to pharmaceutical technology innovation projects.” In May 2017, 6 Dimensions Capital was formed through a merger between Frontline BioVentures and WuXi Healthcare Ventures. The largest investor in Frontline BioVentures is a fund of funds led by Oriza Holdings, an investment arm of the Suzhou municipal government. (See SHANGHAI HILE BIO-TECHNOLOGY CO., LTD. IPO PROSPECTUS (filed with the Shanghai Stock Exchange on May 5, 2015), at 1-1-73). 6 Dimensions Capital also lists the following key state backers: Suzhou Industrial Park Biotech Development (bioBAY), China Development Bank (CDB) Capital FOF II, Shanghai Zhangjiang Science and Technology Venture Capital Management Co., Ltd, and SDIC National Venture Capital Guidance Fund for Emerging Industries by State Development and Investment Corporation (SDIC). (See *Frontline BioVentures' Total AUM Reached RMB 3Bn after Announcing RMB Fund II Fundraising Closed*, 6 DIMENSIONS CAPITAL (Mar. 1, 2017), <http://6dimensionscapital.com/en/newslist/newsfolder/frontline-bioventures-total-aum-reached-rmb-3bn/>).

²⁸⁰ News | 6 Dimensions Capital Closed Oversubscribed 1st USD Fund and RMB Fund, Bringing Total AUM Over RMB 10Bn (USD 1.5Bn), 6 DIMENSIONS CAPITAL (Dec. 7, 2017), <http://www.6dimensionscapital.com/en/newslist/newsfolder/news-6-dimensions-capital-closed-oversubscribed-1st-usd-fund-and-rmb-fund-bringing-total-aum-over-rmb-10bn-usd-15bn/>.

²⁸¹ News | 6 Dimensions Capital Closed Oversubscribed 1st USD Fund and RMB Fund, Bringing Total AUM Over RMB 10Bn (USD 1.5Bn), 6 DIMENSIONS CAPITAL (Dec. 7, 2017).

development”²⁸² and aims to “find and invest in global innovation in the US and build healthcare industry leaders in China.”²⁸³

3. Illustrative Examples of Chinese Venture Capital Investments

Available evidence indicates that the Chinese government has created and supported a web of entities that have established a presence in Silicon Valley and other U.S. technology centers to invest in high-technology U.S. startups and engage in a variety of VC investment related activities, to further the industrial policy goals of the Chinese government. VC firms invest in dozens, and sometimes hundreds, of startup companies, creating a diverse set of portfolio companies. VC firms then engage with their portfolio companies and to varying degrees have access to information, technology, and the ability to influence and potentially coerce management. The following cases exemplify this pattern of activity.

a) Digital Horizon Capital (Formerly “Danhua Capital”)

As discussed in Section IV.C.3 of the Section 301 Report, Zhongguancun Development Group (ZDG), an SOE established by the Beijing municipal government, established an investment arm in Silicon Valley in October 2014 – ZGC Capital Corporation. ZGC Capital Corporation subsequently founded the ZGC Innovation Center @ Silicon Valley in May 2016. The Section 301 Report also noted that ZGC Capital has partnered with Stanford University, engaged in talent recruitment, made VC investments – including Meta, Everstring, and Optimizely – and invested in other VC funds – including Plug & Play, KiloAngel, and Danhua.

ZDG continues to support VC investments in Silicon Valley and elsewhere. In total, it has backed at least 59 investment funds, including Danhua Capital.²⁸⁴

In May 2013, Beijing’s Mayor, Wang Anshu, attended the Danhua Capital signing ceremony in Silicon Valley.²⁸⁵ In a press release posted on the ZDG website, ZDG stated that Danhua Capital would focus on supporting original and disruptive technologies developed at Stanford and nearby universities to work with the ZGC Group Silicon Valley Incubator Center and guide those projects back to Zhongguancun (in Beijing) to commercialize, thereby advancing the strategy whereby “Zhongguancun capital goes out and foreign advanced technology and human capital is brought in.”²⁸⁶

²⁸² See *Frontline BioVentures’ Total AUM Reached RMB 3Bn after Announcing RMB Fund II Fundraising Closed*, 6 DIMENSIONS CAPITAL (Mar. 1, 2017).

²⁸³ *Home*, 6 DIMENSIONS CAPITAL, <http://www.6dimensionscapital.com/en/home/> (last visited Nov. 16, 2018).

²⁸⁴ *Established Funds* [Chinese], ZHONGGUANCUN DEVELOPMENT GROUP, http://www.zgcgroup.com.cn/investor_relations/list03.html (last visited Nov. 6, 2018).

²⁸⁵ *The Group Establishes “Zhongguancun-Stanford Emerging Technologies Venture Capital Fund”* [Chinese], ZHONGGUANCUN DEVELOPMENT GROUP (May 15, 2013), http://www.zgcgroup.com.cn/news/details_16_979.html (last visited Nov. 8, 2018).

²⁸⁶ *The Group Establishes “Zhongguancun-Stanford Emerging Technologies Venture Capital Fund”* [Chinese], ZHONGGUANCUN DEVELOPMENT GROUP (May 15, 2013).

These efforts appear to be continuing. In March 2018, Wei Xiaodong, a member of the Beijing Municipal CCP Standing Committee, led a delegation of ZDG executives to officially open the Zhongguancun Boston Innovation Center in Cambridge, Massachusetts.²⁸⁷ According to a press release posted on the ZDG website, the Boston center marks the “substantial progress of [ZDG’s] overseas strategy to radiate the technological and innovation resources concentrated in the Eastern United States.”²⁸⁸

Danhua Capital, which currently goes by the name “Digital Horizon Capital,”²⁸⁹ originally planned to raise a first fund of \$50 million,²⁹⁰ but ZDG spurred Chinese heavyweights, including Alibaba and Baidu, to contribute funding which ended up at \$91.25 million in 2014.²⁹¹ In 2016, Danhua raised \$250 million for a second fund.²⁹² Other notable Chinese companies with state connections and strong interests in technology also allocated funds to Danhua Capital:

- iFlyTek, a voice recognition company, committed to invest \$5 million in Danhua Capital funds in November 2016 for the purpose of “participating in investment in high-technology areas in the United States, following leading edge technology development trends, strengthening [iFlyTek’s] communication and cooperation with outstanding U.S. companies, obtaining overseas market investment and acquisition opportunities.”²⁹³ iFlyTek’s extensive state-connections were detailed in the Section 301 Report.²⁹⁴
- BOE Technology Group Co., Ltd. (“BOE Group”) had invested almost CNY 60 million (\$8.9 million) in Danhua Capital funds by the end of 2017.²⁹⁵ BOE Group’s largest and controlling shareholder is the State-owned Assets Supervision and Administration Commission of Beijing Municipality.²⁹⁶

In total, Danhua lists 113 U.S. companies in its portfolio, and most of those companies fall within emerging sectors and technologies (such as biotechnology and AI) that the Chinese government has identified as strategic priorities.²⁹⁷ Subsequently, at least one of those

²⁸⁷ A New Journey on Our Eighth Anniversary: *Zhongguancun Launches Innovation Center in Boston* [Chinese], ZHONGGUANCUN DEVELOPMENT GROUP (Apr. 3, 2018), http://www.zggroup.com.cn/news/details_16_2225.html.

²⁸⁸ A New Journey on Our Eighth Anniversary: *Zhongguancun Launches Innovation Center in Boston* [Chinese], ZHONGGUANCUN DEVELOPMENT GROUP (Apr. 3, 2018).

²⁸⁹ See United States Patent and Trademark Office, Trademark Electronic Search System, Digital Horizon Capital Trademark Filed by DanHua Capital Management, LLC Limited Liability Company Delaware (Serial Number 87871380) (Apr. 10, 2018).

²⁹⁰ *The Group Establishes “Zhongguancun-Stanford Emerging Technologies Venture Capital Fund”* [Chinese], ZHONGGUANCUN DEVELOPMENT GROUP (May 15, 2013).

²⁹¹ *Shao Shunchang: Exploring and Realizing the International Development of Zhongguancun* [Chinese], ZHONGGUANCUN DEVELOPMENT GROUP, http://www.zggroup.com.cn/content/details_63_1324.html (last visited Nov. 19, 2018).

²⁹² See Danhua Capital II, L.P., Form D Notice of Exempt Offering of Securities, filed with the SEC on Aug. 24, 2016.

²⁹³ iFlyTek Co., Ltd., *Announcement on External Investment 1* (filed with the Shanghai Stock Exchange on Nov. 1, 2016 (2016-072)).

²⁹⁴ See Section IV.C.3 of the Section 301 Report.

²⁹⁵ BOE TECHNOLOGY GROUP, 2017 ANNUAL REPORT, at 69.

²⁹⁶ BOE TECHNOLOGY GROUP, 2017 ANNUAL REPORT, at 60-67.

²⁹⁷ See *Companies*, DIGITAL HORIZON CAPITAL, <http://dh.vc/companies> (last visited Nov. 15, 2018).

companies has reportedly decided to reduce operations in Silicon Valley and open operations in China.²⁹⁸ Notable investments include Meta, a Silicon Valley company that makes augmented reality products,²⁹⁹ and Cohesity, a California-based data storage company.³⁰⁰

b) Oriza Ventures

Oriza Holdings,³⁰¹ which is 100% owned by the Suzhou Industrial Park Administration Committee,³⁰² an arm of the Suzhou municipal government,³⁰³ is also active in the U.S. VC ecosystem. Oriza Holdings is the lead manager of the Silicon Valley-based Oriza Ventures Technology Fund (“Oriza Ventures”), where it had invested over CNY 340 million (\$50 million) as of September 30, 2017.³⁰⁴

Oriza Holdings links its VC investments in the United States to Chinese industrial policies. In a February 2017 Oriza Holdings press release announcing a technological achievement by one of Oriza Ventures’ portfolio companies in California, Oriza Holdings tied the founding of Oriza Ventures to China’s “Going Out” strategy aimed at acquiring foreign technology.³⁰⁵

Oriza Ventures has invested in at least 61 early stage technology companies in the U.S.³⁰⁶ These companies often fall within sectors or design technologies that the Chinese government has identified as strategic priorities. Notable investments include:³⁰⁷

²⁹⁸ As of September 2018, Meta, a Silicon Valley-based augmented reality company, is reportedly laying off over half of its employees in Silicon Valley and opening operations in China to be more “resource-effective” after the Chinese government pressured Chinese investors. See *Augmented Reality Company Meta to Put 75% of Employees on Hiatus*, CTECH (Sep. 26, 2018). See also Selina Wang, *Trade War Is Hurting San Mateo Augmented Reality Startup Meta*, SFGATE, Sep. 10, 2018, <https://www.sfgate.com/business/article/Trade-war-is-hurting-San-Mateo-augmented-reality-13218976.php>.

²⁹⁹ *About Us*, META, <https://www.metavision.com/about-us/> (last visited Nov. 16, 2018). See also Signe Brewster, *Meta raises \$23M Series A to Refine Its Augmented Reality Glasses*, GIGAOAM (Jan. 28, 2015). The Digital Horizon Capital website no longer lists Meta as a portfolio company; however, a version of the Danhua Capital website (danhua.com) archived on April 5, 2018 lists Meta as a portfolio company.

³⁰⁰ *Company*, COHESITY, <https://www.cohesity.com/company/> (last visited Nov. 16, 2018). See also *Companies*, DIGITAL HORIZON CAPITAL, <http://dh.vc/companies> (last visited Nov. 15, 2018).

³⁰¹ Oriza Holdings Chinese name is *Suzhou Yuanhe Konggu Youxian Gongsi*. Oriza Ventures Technology Fund is a U.S. entity and does not appear to have a Chinese name.

³⁰² Oriza Holdings Co., Ltd., *Reply to the Pre-audit Feedback about Suzhou Oriza Holdings Co., Ltd. Public Issuance to Qualified Investors of Innovation and Entrepreneurship Corporate Bonds* [Chinese] (filed with the Shanghai Stock Exchange on Mar. 7, 2018), at 25.

³⁰³ *Approval on Issues Regarding Starting Construction on Suzhou Industrial Park* (State Council Letter [1994] No. 9), published Dec. 2, 2010. See also Heather Somerville, *China’s Penetration of Silicon Valley Creates Risks for Startups*, REUTERS, June 28, 2018, <https://www.reuters.com/article/us-usa-china-techinvesting-insight/chinas-penetration-of-silicon-valley-creates-risks-for-startups-idUSKBN1JP08V>.

³⁰⁴ Oriza Holdings Co., Ltd., *Reply to the Pre-audit Feedback about Suzhou Oriza Holdings Co., Ltd. Public Issuance to Qualified Investors of Innovation and Entrepreneurship Corporate Bonds* [Chinese] (filed with the Shanghai Stock Exchange on Mar. 7, 2018), at 6.

³⁰⁵ *Oriza Holdings Overseas Investment Reveals Outstanding Talent*, ORIZA HOLDINGS (Feb. 17, 2017), http://www.sipac.gov.cn/SIPNEWS/jwhg/2017yqdt/02/201702/t20170217_532083.htm (last visited Nov. 13, 2018).

³⁰⁶ Oriza Holdings Co., Ltd., *Public Offering of 2018 Innovation and Entrepreneurship Corporate Bonds (First Phase) Prospectus (for Qualified Investors)* [Chinese], filed with the Shanghai Stock Exchange on May 22, 2018.

³⁰⁷ *Portfolio*, ORIZA VENTURES, <https://www.orizaventures.com/portfolio> (last visited Nov. 8, 2018).

- Omniscience, a company that produces big data analytics software with “technical origins in the U.S. intelligence community” that “help government agencies to protect the homeland;”³⁰⁸
- Petuum, based in Pittsburgh, an AI and machine learning startup;³⁰⁹
- Drive.ai, which works on AI for self-driving cars;³¹⁰ and
- Aromyx, “a Stanford University- and VC-backed biotech and data science startup in Palo Alto” whose “early technology was funded by DARPA” and “accelerated by both the Stanford StartX Accelerator [and the] Plug and Play innovation center.”³¹¹

Oriza Holdings has played a central role in China’s industrial policy, particularly in pioneering the Chinese government’s use of industry investment funds and VC funds. Oriza Holdings was established in 2001; as of June 2018 it has directly invested CNY 17.5 billion (\$2.7 billion) in 593 projects.³¹² Oriza has also established 84 subsidiary VC funds that manage over CNY 67.2 billion (\$10.2 billion), which in turn have invested in over 1,200 companies, 68 of which Oriza has “cultivated” to go public.³¹³ Oriza Holdings claims to have established a “Thousand Talents” Venture Capital Center, which has 96 equity investment management teams that manage 152 funds exceeding over CNY 131 billion (\$20 billion) in value as well as seven debt financing service organizations which have serviced over 4,200 enterprises.³¹⁴

VI. Conclusion

As the evidence gathered in this update demonstrates, China fundamentally has not altered its acts, policies, and practices related to technology transfer, intellectual property, and innovation, and indeed appears to have taken further unreasonable actions in recent months. USTR intends to continue its efforts to monitor any new developments and actions in this area.

³⁰⁸ *About Omniscience*, OMNISCIENCE, <https://www.omni.sc/> (last visited Nov. 8, 2018) “With its technical origins in the US intelligence community and its founders’ experiences developing and deploying Internet-scale applications, Omniscience created a software execution framework to handle the high data volumes and combinatorial complexity of the real world. Omniscience’s team brings extensive experience in machine learning, algorithmic distribution, finance, insurance, and data science. Omniscience is headquartered in Palo Alto, California, the heart of Silicon Valley. Investors include Plug and Play and Oriza Ventures. Omniscience’s software solutions enable leading financial firms and insurers to increase revenues, lower costs, reduce risk, and improve return on equity. And Omniscience’s software help government agencies to protect the homeland.”

³⁰⁹ *About Petuum*, PETUUM, <https://petuum.com/about.html> (last visited Nov. 13, 2018).

³¹⁰ *Home*, DRIVE.AI, <https://www.drive.ai/> (last visited Nov. 13, 2018).

³¹¹ *About*, AROMYX, <http://www.aromyx.com/about> (last visited Nov. 13, 2018).

³¹² *Company Introduction*, ORIZA HOLDING, <http://www.oriza.com.cn/About.aspx?cid=24> (last visited Nov. 7, 2018).

³¹³ *Company Introduction*, ORIZA HOLDING, <http://www.oriza.com.cn/About.aspx?cid=24> (last visited Nov. 7, 2018).

³¹⁴ *Oriza Holdings Talent Recruitment Guide and Recruitment Procedure (February 2018)* [Chinese], ORIZA HOLDINGS, <http://www.o-hr.cn/html/sipac/gqzp-12.pdf> (last visited Nov. 7, 2018).

Appendix A – China’s Foreign Investment Catalogue: Overview of Key Changes in 2018 Version

Sector	Summary of Requirements in 2017 FIC	Changes in 2018 FIC
Selection and cultivation of new varieties of crops and production of seeds	Chinese entity must be the controlling shareholder.	Removed controlling shareholder requirement for selection and cultivation of new varieties of crops other than corn and wheat.
Exploration and development of oil and natural gas	Limited to CJV or EJV	No Change
Manufacturing of fully-assembled automobiles	Chinese entity’s investment cannot be lower than 50 percent, and the same foreign investor may establish no more than two JVs in China for the same kind of automobiles, subject to certain exceptions.	Removed foreign equity cap for manufacturing of special use vehicles and new energy vehicles. In addition, (i) in 2020, the foreign equity cap for manufacturing of commercial vehicles will be removed, and (ii) in 2022 the two JV cap and the foreign equity cap for manufacturing of passenger vehicles will be removed.
Manufacturing commercial aircraft	Chinese entity must be the controlling shareholder.	Controlling shareholder requirement removed
Construction and operation of nuclear power plants	Chinese entity must be the controlling shareholder.	No Change
Value-added Telecommunications Services	Foreign investment cannot exceed 50 percent, excluding e-commerce, and is limited to WTO commitments. Note that China classifies a broad range of internet and technology-related services under this sector.	No Change
Basic telecommunications services	Chinese entity must be the controlling shareholder and foreign investment is limited to WTO commitments.	No Change
Banking	Foreign financial institution investment cannot exceed 20 percent or 25 percent depending on how the investment is structured.	Foreign equity restriction removed
Medical institutions	Limited to CJV or EJV.	No Change
Surveying and mapping companies	Chinese entity must be the controlling shareholder.	Controlling shareholder requirement removed