



INTERSECTIONS

Technology, National Security, and US-China Strategic Competition

Intersections is a news digest describing technology competition between the United States and the People’s Republic of China (PRC).¹ Issue six covers two main stories and the global reactions to each. First, we describe the new PRC critical minerals export restrictions and responses to that policy decision by the European Union (EU), Japan, Korea, and the US. Second, we cover a new US executive order that mandates screening of outbound investment to the PRC in three technology categories: semiconductors and microelectronics, quantum information technologies, and artificial intelligence (AI) systems. Like the PRC’s export restrictions, the US’ proposed outbound investment screening has created debate in the EU, the United Kingdom (UK), and beyond about these countries’ approaches to outbound investment. In addition to these two main headlines, we discuss the recent US-Japan-South Korea trilateral meetings, New Zealand’s National Security Strategy, and Germany’s China strategy alongside our recurring coverage of PRC technical developments and illegal activities. Click [here](#) to read *Intersections* in your [browser](#).

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PRC IMPOSES CRITICAL MINERAL RESTRICTIONS

PRC places export controls on gallium and germanium. In July and as reported in our [previous issue](#), the PRC Ministry of Commerce announced controls on the export of two minerals: gallium and germanium (and their chemical compounds).² PRC restrictions on the export of these minerals could have an outsized effect on global supplies, potentially affecting military and commercial production that relies on these minerals. Gallium is used to make high-performance semiconductor [chips](#) for advanced radars employed in missile systems and naval warships. Gallium chips are also used in commercial systems, such as 5G base towers, solar cells, and electric vehicles.³ Germanium is [used](#) in solid-state electronics, fiber optic systems, thermal imaging applications, and transistors.⁴ The export controls went into effect on August 1.⁵

Currently, the PRC accounts for [98 percent](#) of the world's production of raw gallium and about [60 percent](#) of germanium production.⁶ Both gallium and germanium are usually obtained as [byproducts](#) of refining other metals.⁷ For example, [gallium](#) is often obtained as a byproduct of aluminum refining.⁸ The PRC's gallium industry has indirectly benefited from Beijing's extensive [subsidies](#) for aluminum production, along with policies that require aluminum producers to install gallium refining capabilities. PRC control over gallium production has forced gallium producers in other countries out of business.⁹

ALLIES ASSESS PRC EXPORT CONTROLS

Japan assesses the impact from PRC export controls. Japanese firms predict negligible impacts from the gallium and germanium export controls in the short term. Japan currently [relies](#) on the PRC for 69 percent of its gallium and 71 percent of its germanium imports,¹⁰ but according to one article in the *Japan News*, Japanese manufacturers have six months' worth of gallium [reserves](#) and thus do not expect production that relies on gallium to be affected by the controls in the near term.¹¹ Corporate officials from Japanese company Mitsubishi Chemical have said that the medium- and long-term impacts of the export controls are unclear, and that they are continuing to monitor these impacts.¹² Japan's Chief Cabinet Secretary Matsuno Hirokazu also stated that Japan's supply chains would not be immediately affected, and that the Japanese government would monitor the controls and respond appropriately if Japan is treated unfairly.¹³

South Korea enhances supply chain monitoring. According to South Korean press agency Yonhap, at a [meeting](#) held shortly after the PRC's new export controls were announced, South Korea's Ministry of Trade, Industry, and Energy; major Korean business associations; and state-run industry agencies agreed that the PRC export controls would have minimal impact on South Korea over the short term. South Korean companies that use gallium, including chipmakers and display makers, reportedly have a 40-day stockpile of the metals and expect to be able to import from nations other than the PRC. Similarly, South Korean chipmakers have multiple import channels for obtaining germanium.¹⁴ However, according to *Korea JoongAng Daily*, some South Korean companies are less confident about the long-term [impacts](#) of the export controls and are concerned that their supply chains could be at risk if the controls remain in place over the long term.¹⁵

In August, Yonhap reported that South Korea has [enhanced](#) its monitoring of its high-technology industry and chipmaking supply chains in response to the PRC's export controls.¹⁶ As part of this effort, the South Korean Ministry of Trade, Industry, and Energy plans to establish consultation groups tasked with sharing

information about global supply chain issues. An official from the ministry also said that the South Korean government will support companies in ensuring the stable supply of materials.¹⁷

EU assesses exposure to export controls, calls on EU companies to produce gallium and germanium.

According to the French newspaper *Le Figaro*, after the PRC announced its gallium and germanium export controls, a spokesperson for the European Commission described the EU as “[concerned](#)” and called for the PRC to limit its controls to those based on “clear security considerations” consistent with World Trade Organization rules.¹⁸ EU officials will [assess](#) the effects on member states and economic sectors. The EU relies on the PRC for 71 percent of its gallium imports and 45 percent of its germanium imports.¹⁹

PRC INVESTMENT AND TALENT ACTIONS

In July and August 2023, the PRC government announced a series of new economic and technology-related policies. These policies cover everything from efforts to attract foreign investment in high-tech areas to a new foreign talent recruitment program. However, these policies can all be viewed as means for Beijing to pursue self-sufficiency in advanced technologies—a key aspect of PRC [Military-Civil Fusion](#) efforts to strengthen China’s defense capabilities.

New PRC State Council guidelines offer preferential treatment to investors in China’s high-tech firms.

On August 9, the PRC State Council released new guidelines aimed at attracting foreign investment in China’s high-tech sector.²⁰ The guidelines encourage foreign investors to establish research and development centers in China and identify biomedicine as an area in which foreign-invested projects will be fast-tracked for approval. An article by *China Daily* quoted domestic and foreign experts claiming these preferential policies for taxation and data protection will spur foreign investment in high-end manufacturing.²¹

PRC government fund invests in efforts to turn scientific discoveries into profitable ventures. In July 2023, PRC media reported that as of last year, the China National Fund for Technology Transfer and Commercialization (NFTTC)—a major PRC state investment fund launched in 2014—had injected a record [\\$8.7 billion](#) USD into 616 enterprises. The NFTTC financially supports efforts to transform scientific research results into profit-oriented ventures.²² It chooses areas for investment based on a list of priority high-tech sectors jointly issued by several PRC government ministries. This list includes sectors such as “digital information, biomedicine, aerospace, and new materials.”²³

New regulatory framework to promote private investment in PRC start-ups takes effect. On September 1, a new regulatory framework on private investment went into effect that gives special treatment to PRC private investment funds providing money to domestic start-ups.²⁴ A *South China Morning Post* [article](#) on the regulations stated that China’s private investment funds constitute a \$3 trillion USD industry that plays an increasingly important role in the country’s technological innovation.²⁵

PRC continuing overseas talent recruitment efforts under new branding as a successor to the Thousand Talents Plan. On August 24, Reuters [reported](#) that China was using a program called *Qiming* to recruit elite foreign-trained scientists who specialize in priority disciplines such as semiconductor technology.²⁶ The program, overseen by the PRC’s Ministry of Industry and Information Technology, is a successor to China’s Thousand Talents Plan, which similarly sought to attract overseas PRC and foreign-born researchers with offers of high salaries. China stopped publicly using the [Thousand Talents Plan](#) branding in 2018 amid allegations of theft of sensitive technologies and federal investigations into US

scientists who participated in the program.²⁷ According to the US Federal Bureau of Investigation, participation in PRC talent plans is not inherently illegal under US law, but researchers [risk](#) breaking the law if they fail to disclose their affiliations to PRC entities, violate export controls, or illegally share trade secrets.²⁸

US OUTBOUND INVESTMENT RESTRICTIONS

President Biden signs executive order directing Treasury Department to develop regulations to restrict sensitive technology transactions with China. On August 9, 2023, President Biden signed [Executive Order 14085](#), which orders the US Treasury Secretary, in consultation with the Secretary of Commerce and the “heads of other relevant agencies,” to develop new regulations on outbound investment screening. The order directs the Treasury Secretary to develop the following:

1. Regulations that require [US persons](#) to notify the US government of certain investment transactions with [“covered” foreign persons](#) (called “notifiable transactions” in the order)
2. Regulations that completely ban US persons from engaging in certain other types of transactions (“prohibited transactions”) with covered foreign persons²⁹

The order specifies three categories of technologies considered “notifiable” and “prohibited”:

1. Semiconductors and microelectronics
2. Quantum information technologies
3. AI systems

The order intends to restrict US investments in PRC technologies in the above three technology categories that enable PRC “military, intelligence, surveillance, or cyber-related capabilities.” However, the order does not specify which technologies will be restricted, or what forms of investment might be exempted. How the regulations ultimately implement details like these will have major ramifications for US industry. Therefore, the US Treasury Department [announced](#) on August 9 that it was soliciting public comment on how to implement the order as a first step toward eventually issuing draft regulations.³⁰

ALLIES CONSIDERING OUTBOUND INVESTMENT RESTRICTIONS

EU reviewing its approach to outbound investment screening. According to a [Financial Times](#) report, in response to the August 9 US executive order on outbound investment screening, the EU indicated that it will aim to make its own proposal by the end of 2023.³¹ Per the report, the European Commission stated that it was in “close contact” with the White House but would not immediately follow the US approach. In explaining their thinking, European officials and diplomats pointed to differences in the EU’s economic situation and investment relationship with the PRC, including relatively higher levels of investment by certain EU countries in the PRC market. The European Commission stated that it was exploring ways to monitor EU nation investments in other countries but wanted to “maintain good relations with Beijing.”³²

UK considering pros and cons of possible outbound investment screening measures. According to [Politico](#), in July 2023, the British government sent a survey to a “broad range of British companies” asking about current investment in 17 sectors, with the goal of understanding how outbound investment screening measures might impact British industry.³³ This report claims that British officials are carefully weighing national security considerations against British firms’ economic ties to the PRC. British firms are reportedly worried that any investment screening measures will be too broad and could stifle legitimate British

economic activities. However, some members of Prime Minister Rishi Sunak's Conservative Party are calling for tougher measures to protect technology from exploitation by Beijing. These members have expressed concerns over the same areas that concern US officials: semiconductors, AI, and quantum computing.

US EXPORT CONTROL ACTIONS

US imposes trade restrictions on PRC entities for procuring components for military UAVs used by Iran and Russia. On September 25, the US Department of Commerce's Bureau of Industry and Security released a [rule](#) that added 28 entities to the Entity List. The Entity List imposes restrictions on exports to foreign businesses, research institutions, organizations, and individuals. One China-based entity based procured unspecified "US-origin items in likely furtherance of [PRC] military research," and six PRC entities were added to the list for having procured aerospace components for Iran's Shahed-series unmanned aerial vehicle (UAV) program. The Commerce Department also deemed six PRC aerospace entities as supporters of "military end users" in Russia or Belarus.³⁴

ALLY AND PARTNER DEVELOPMENTS

Japan, South Korea, and the United States pledge to strengthen trilateral measures to prevent theft of high-end tech. On August 18, the leaders of the US, South Korea, and Japan convened at Camp David and released a [joint statement](#) outlining how they would expand trilateral cooperation. Among the measures outlined in the joint statement were two items focused on improving technology protection and preventing technologies developed by the three countries from being illegally exported or stolen. The joint statement announced that the three countries would take the following actions:

- Conduct inaugural exchanges between the US Disruptive Technology Strike Force (DTSF)—an interagency US government task force led by the Departments of Justice and Commerce—and Japanese and South Korean counterpart organizations to deepen information sharing and coordination across the three countries' relevant agencies.³⁵
- Strengthen trilateral cooperation on export controls to prevent the three countries' technologies from being diverted for military or dual use in other countries in ways that could threaten international peace and security.³⁶

US Disruptive Technology Strike Force

The [US Disruptive Technology Strike Force \(DTSF\)](#) is a US government task force jointly established in February 2023 by the Department of Justice's National Security Division and the Commerce Department's Bureau of Industry and Security to prevent authoritarian regimes' illicit acquisition of sensitive US technologies. The task force brings together "experts throughout government...to target illicit actors, strengthen supply chains, and protect critical technological assets from being acquired or used by nation-state adversaries."³⁷ The DTSF has already charged a group of PRC defendants accused of stealing trade secrets, among other crimes.³⁸

New Zealand releases National Security Strategy. On August 4, the New Zealand government released its first-ever [National Security Strategy](#) (NSS) covering the period out to 2028.³⁹ The new NSS outlines the country's approach to strategic competition, critical and emerging technologies, disinformation, espionage, and cyber security. The NSS states that "if strategic competition intensifies, New Zealand may face a less predictable, more contested international system that is less aligned with our values and interests."⁴⁰ The

strategy goes on to describe the potentially disruptive role that emerging technologies (including AI, biotech, and robotics) may play, and how those technologies could disrupt supply chains or contribute to the “disruptive impacts of malicious cyber activities.”⁴¹ The NSS identifies 12 “core national security issues,” which are displayed in Table 1.

Table 1. New Zealand’s “core national security issues”

Strategic competition	Emerging technologies	Disinformation	Foreign interference
Terrorism	Transnational crime	Economic security	Pacific resilience
Maritime security	Border security	Cyber security	Space security

Source: New Zealand Government, *Secure Together: New Zealand’s National Security Strategy 2023–2028*, p. 16.

In first-ever China strategy, Germany identifies PRC as “partner, competitor, and systemic rival.” In July, Germany’s federal government released its [Strategy on China](#), which describes how Germany is adjusting its approach to better address PRC attempts to “reshape the existing rules-based international order,” while also retaining the ability to partner on economic and climate issues.⁴² Notably, the strategy states that for Germany, China is “simultaneously a partner, competitor, and systemic rival” and that the strategy “takes account of all these dimensions.” Among other issues, the strategy discusses how Germany can ensure its economic security through the following actions:

- Reducing its reliance on the PRC (i.e., “de-risking”) for products in critical sectors, such as photovoltaics and certain pharmaceutical products.
- Increasing investment in research, development, and innovation to protect Germany’s technological sovereignty so that Germany, and the EU more broadly, do not become reliant on “technologies from third countries that do not share our fundamental values.”
- Increasing cooperation with the EU and the G7 nations on screening PRC investments by sharing knowledge about PRC companies’ investment strategies and coordinating screening approaches.⁴³

British Parliament releases sweeping report on PRC threat to national security. In July 2023, the UK Parliament’s Intelligence and Security Committee released a lengthy [report](#) on the threat posed by the PRC to UK national security.⁴⁴ The report was based on evidence gathered from the UK intelligence community, government departments, academia, industry, and other groups. The report analyzes the following:

- Beijing’s strategic goals with respect to the UK
- PRC intelligence service activities in the UK, both overt and covert
- PRC influence campaigns in the UK
- The UK government’s response to the security threat posed by the PRC⁴⁵

The report blames the UK government for adopting an uncoordinated approach to PRC espionage and being slow to implement counterstrategies. For example, the report quotes Raffaello Pantucci, a senior fellow at the Royal United Services Institute (a security think tank), who stated that “every department has seemingly a different [China] strategy” and no “coherent response.”⁴⁶ The report also criticizes the UK government for “the slow speed at which strategies, and policies, are developed and implemented.”⁴⁷

In response, Prime Minister Sunak issued a [statement](#) welcoming the report and pledging to consider its recommendations. Sunak noted that the “bulk” of the report’s evidence was from 2020 and stated that since then, the UK government has already implemented numerous measures to strengthen national security and

counter PRC economic and intelligence activities.⁴⁸ Among these actions, the prime minister noted that the recently enacted [National Security Act of 2023](#) updates or creates new definitions of criminal behavior related to espionage, sabotage, foreign interference, and other national security–related offenses.⁴⁹

However, the threat posed by the PRC to UK national security may be ongoing. In September, as [reported](#) in the UK's *Sunday Times*, London's Metropolitan Police publicly revealed they had arrested two men including a UK parliamentary researcher in March on suspicion of spying for the PRC.⁵⁰ According to a *Financial Times* [report](#), the researcher had held access credentials to parliament for several years and had links to various senior members of the Conservative Party.⁵¹

PRC ADVANCES IN CRITICAL AND EMERGING TECH

In this section, we summarize several technology areas relevant to US-PRC technology competition. First, we describe PRC programs that support “chiplet” research—an avenue the PRC has been pursuing to avoid supply chain restrictions due to the US semiconductor export controls. Second, the Chinese start-up firm GalaxySpace, which is China's answer to Starlink, is testing solar panels for low-Earth orbit satellites, which could improve the efficiency and longevity of these satellites. As compared to Starlink, China's low-Earth constellation is nascent, but the PRC hopes to make progress in this area. Third, Chinese researchers have published a study on acoustic monitoring systems in the Arctic Ocean.

PRC government sponsors research on “chiplet” tech. In August, China's National Natural Science Foundation, an organization under the PRC Ministry of Science and Technology, announced it would [fund](#) up to 30 research activities to advance “chiplet” technology.⁵² Chiplet technology takes a modular approach to design by allowing manufacturers to use “pre-developed” chiplets, which are then “packaged into a more complex processor.”⁵³ According to the industry website [Semiconductor Engineering](#), “In theory, the chiplet approach is a fast and less expensive way to assemble various types of third-party chips.”⁵⁴ According to the *South China Morning Post*, the program's goal is to pursue “a new technology path for China in semiconductors through breakthroughs in the assembly and integration of chiplets.”⁵⁵

Chinese satellite company tests bendable solar panels for its latest satellite launch. In late July, Beijing start-up firm GalaxySpace [launched](#) a communications satellite using “an ultra-thin flexible solar wing” to test the functionality of this type of solar panel.⁵⁶ Earlier this year, GalaxySpace launched an “experimental network” of low-Earth orbit satellites to test 5G networks.⁵⁷ GalaxySpace has received [funding](#) from a variety of Chinese investment funds,⁵⁸ and the company claims it is “the first unicorn in China's satellite internet industry,” which means it is now valued at over \$1 billion USD.⁵⁹

Chinese scientists examine Arctic Ocean acoustic monitoring buoy system. According to the *South China Morning Post*, recently published academic research examined an [acoustic monitoring system](#) that was placed in the Arctic Ocean in 2021.⁶⁰ The *Chinese Journal of Polar Research*, a peer-reviewed publication “jointly sponsored by the Polar Research Institute of China and the Chinese Arctic and Antarctic Administration,”⁶¹ published research on these sensors, which are used to collect sound waves in the Arctic Ocean.⁶² According to the Polar Research Institute, “The sensors...exceeded the design indicators by 17.4 percent,” but the scientists used American communications services to relay the data due to the high cost for sending data and unstable satellite coverage.⁶³ Arctic Ocean shipping routes are an emerging focus within PRC national security; see our [2022 report](#) on the topic.

ILLEGAL ACTIVITIES

A French semiconductor company is suspected of transferring technology to China and Russia. As first reported in July by *Le Parisien*, France is [investigating](#) the semiconductor company Ommic for allegedly transferring chip technology to China and Russia.⁶⁴ Suspicions about Ommic were first raised in 2021, when French customs officials discovered that a China-bound shipment of Ommic's chips had been tampered with to disguise the fact that the chips were dual-use and should have been subject to a strict authorization process.⁶⁵ French authorities later found that Ommic was [majority owned](#) by a businessperson linked to the PRC's defense industry. French authorities suspect that this individual was interested in Ommic's gallium nitride chip technology, which is employed in French military systems, and aimed to transfer the technology to China.⁶⁶ Similarly, Radio France Internationale reported that French authorities believe a PRC investor in Ommic attempted to [transfer](#) Ommic's technologies to the PRC by setting up a "mirror company" in Chengdu. Ommic also allegedly defied sanctions to deliver chips to a Russian state-owned company that manufactures military equipment.⁶⁷ According to the Associated Press, French authorities have placed Ommic under [state control](#) and sold it to a US company.⁶⁸

NOTES

¹ *The People's Republic of China Uses Diverse Tools to Access Foreign Technology and Critical Infrastructure*, CNA, Apr. 2022, <https://www.cna.org/quick-looks/2022/PRC-USES-TOOLS-TO-ACCESS-FOREIGN-TECHNOLOGY.pdf>.

² PRC Ministry of Commerce and General Administration of Customs, 商务部 海关总署公告2023年第23号关于对镓、锗相关物项实施出口管制的公告 [Ministry of Commerce and General Administration of Customs Announcement No. 23 of 2023: Announcement on Export Control of Gallium and Germanium-Related Items], July 3, 2023, <http://www.mofcom.gov.cn/article/zwgk/gkzcfb/202307/20230703419666.shtml>.

³ PRC Ministry of Commerce and General Administration of Customs, *Announcement on Export Control of Gallium and Germanium-Related Items*.

⁴ Germanium-Properties and Applications, AZO Materials, June 18, 2012, <https://www.azom.com/article.aspx?ArticleID=6057>.

⁵ PRC Ministry of Commerce and General Administration of Customs, *Announcement on Export Control of Gallium and Germanium-Related Items*.

⁶ *Gallium: Mineral Commodity Summary 2023*, USGS, 2023, <https://www.usgs.gov/centers/national-minerals-information-center/gallium-statistics-and-information>; "Germanium," Critical Raw Materials Alliance, accessed Sept. 7, 2023, <https://www.crmalliance.eu/germanium>.

⁷ Anabelle Liang and Nick Marsh, "Gallium and Germanium: What China's New Move in Microchip War Means for World," BBC, Aug. 2, 2023, <https://www.bbc.com/news/business-66118831>.

⁸ *Gallium: Mineral Commodity Summary 2023*.

⁹ Matthew P. Funaiolo, Brian Hart, and Aidan Powers-Riggs, *Mineral Monopoly: China's Control Over Gallium Is a National Security Threat*, CSIS, July 18, 2023, <https://features.csis.org/hiddenreach/china-critical-mineral-gallium/>.

¹⁰ "China's Curbs on Rare Metal Exports May Pose Risk to Japanese Manufacturing," *NHK World-Japan*, Aug. 1, 2023, <https://www3.nhk.or.jp/nhkworld/en/news/backstories/2629/>.

¹¹ Taku Mukoyama and Shunsuke Tanaka, "'About Six Months' of Gallium Stockpiles Held by Japanese Firms," *Japan News*, Aug. 4, 2023, <https://japannews.yomiuri.co.jp/business/economy/20230804->

[127579/#:~:text=Economy%2C%20Trade%20and%20Industry%20Minister%20Yasutoshi%20Nishimura%20said,expect ed%20to%20be%20affected%20in%20the%20immediate%20future.](#)

¹² “China’s Curbs on Rare Metal Exports May Pose Risk to Japanese Manufacturing.”

¹³ “China’s Curbs on Rare Metal Exports May Pose Risk to Japanese Manufacturing.”

¹⁴ Seok-min Oh, “S. Korea to Enhance Monitoring of Metal Supply Chains Over China’s Export Curbs,” *Yonhap News Agency*, July 4, 2023, <https://en.yna.co.kr/view/AEN20230704003751320>.

¹⁵ Eun-je Park, “China’s Export Restrictions Rattle Local Chipmakers, Display Firms,” *Korea JoongAng Daily*, Aug. 1, 2023, <https://koreajoongangdaily.joins.com/2023/08/01/business/industry/Korea-China-US/20230801170825887.html>.

¹⁶ Oh, “S. Korea Beefs Up Monitoring of Metal Supply Chains.”

¹⁷ Oh, “S. Korea Beefs Up Monitoring of Metal Supply Chains.”

¹⁸ “Critical Metals: The European Union Is “Concerned” About Chinese Restrictions (Métaux Critiques : l’Union Européenne s’Inquiète” des Restrictions Chinoises),” *Le Figaro*, July 4, 2023, <https://www.lefigaro.fr/conjoncture/metaux-critiques-l-union-europeenne-s-inquiete-des-restrictions-chinoises-20230704>.

¹⁹ Finbarr Bermingham, “EU, Alarmed by China’s New Export Curbs on Germanium and Gallium, Hastens to Assess Exposure,” *South China Morning Post*, July 8, 2023, <https://www.scmp.com/news/china/diplomacy/article/3226989/alarmed-chinas-new-export-curbs-germanium-and-gallium-eu-hastens-assess-exposure>.

²⁰ PRC State Council, 国务院关于进一步优化外商投资环境加大吸引外商投资力度的意见 [Opinions of the State Council on Further Optimizing the Foreign Investment Environment and Enhancing the Attraction of Foreign Investment], Aug. 13, 2023, https://www.gov.cn/zhengce/content/202308/content_6898048.htm.

²¹ Zhong Nan and Wang Keju, “Guidelines Unveiled to Draw More Foreign Investment,” *China Daily*, Aug. 14, 2023, <https://www.chinadaily.com.cn/a/202308/14/WS64d95ab6a31035260b81bdb0.html>.

²² Zhang Lilian, “Tech War: China’s Hi-Tech State Fund Grows to Over US\$8 Billion in Self-Sufficiency Drive,” *South China Morning Post*, July 26, 2023, <https://www.scmp.com/tech/policy/article/3229002/tech-war-chinas-hi-tech-state-fund-grows-over-us8-billion-self-sufficiency-drive>.

²³ “High-Tech Fields Supported by the State” (国家重点支持的高新技术领域), PRC Ministry of Commerce, May 15, 2008, <http://www.mofcom.gov.cn/aarticle/bh/200805/20080505534363.html>.

²⁴ PRC State Council, 私募投资基金监督管理条例 [Regulations on the Supervision and Administration of Private Investment Funds], July 9, 2023, https://www.gov.cn/zhengce/content/202307/content_6890738.htm.

²⁵ Zhang Shidong, “Unprecedented Regulation of China’s Privately Offered Funds Officially ‘Elevates’ US\$3 Trillion Sector Critical to the Economy, Tech Innovation,” *South China Morning Post*, July 10, 2023, <https://www.scmp.com/business/banking-finance/article/3227150/unprecedented-regulation-chinas-privately-offered-funds-officially-elevates-us3-trillion-sector>.

²⁶ Julie Zhu, Fanny Potkin, Eduardo Baptista, and Michael Martina, “Insight: China Quietly Recruits Overseas Chip Talent as US Tightens Curbs,” *Reuters*, Aug. 24, 2023, <https://www.reuters.com/technology/china-quietly-recruits-overseas-chip-talent-us-tightens-curbs-2023-08-24/>.

²⁷ Ellen Barry and Gina Kolata, “China’s Lavish Funds Lured US Scientists. What Did It Get in Return?” *New York Times*, Feb. 6, 2020, <https://www.nytimes.com/2020/02/06/us/chinas-lavish-funds-lured-us-scientists-what-did-it-get-in-return.html>.

- ²⁸ “The China Threat: Chinese Talent Plans Encourage Trade Secret Theft, Economic Espionage,” Federal Bureau of Investigation, accessed Sept. 7, 2023, <https://www.fbi.gov/investigate/counterintelligence/the-china-threat/chinese-talent-plans>.
- ²⁹ “Addressing United States Investments in Certain National Security Technologies and Products in Countries of Concern,” Executive Office of the President, Aug. 11, 2023, <https://www.federalregister.gov/documents/2023/08/11/2023-17449/addressing-united-states-investments-in-certain-national-security-technologies-and-products-in>.
- ³⁰ “Treasury Seeks Public Comment on Implementation of Executive Order Addressing US Investments in Certain National Security Technologies and Products in Countries of Concern,” US Department of the Treasury, Aug. 9, 2023, <https://home.treasury.gov/news/press-releases/jy1686>.
- ³¹ Alice Hancock, Laura Pitel, and Leila Abboud, “EU Treads Cautious Line Over US Investment Bans on Chinese Tech,” *Financial Times*, Aug. 10, 2023, <https://www.ft.com/content/671ba0d0-4d96-41e8-b9e5-c7992a507602>.
- ³² Hancock, Pitel, and Abboud, “EU Treads Cautious Line Over US Investment Bans on Chinese Tech.”
- ³³ Graham Lanktree, “British Firms Quizzed on Chinese Tech Links as US-Style Clampdown Looms,” *Politico*, Aug. 21, 2023, <https://www.politico.eu/article/british-firms-raise-concern-uk-follow-joe-biden-curbs-china-advanced-tech-investment/>.
- ³⁴ US Department of Commerce Bureau of Industry and Security, “Commerce Adds 28 Entities to Entity List for Conspiracy to Violate US Export Controls and Other Activities Contrary to US National Security Interests,” Sept. 25, 2023, <https://www.bis.doc.gov/index.php/documents/about-bis/newsroom/press-releases/3335-2023-09-25-bis-release-28-entity-list-additions/file>.
- ³⁵ “The Spirit of Camp David: Joint Statement of Japan, the Republic of Korea, and the United States,” The White House, Aug. 18, 2023, <https://www.whitehouse.gov/briefing-room/statements-releases/2023/08/18/the-spirit-of-camp-david-joint-statement-of-japan-the-republic-of-korea-and-the-united-states/>.
- ³⁶ “The Spirit of Camp David: Joint Statement of Japan, the Republic of Korea, and the United States.”
- ³⁷ “Justice and Commerce Departments Announce Creation of Disruptive Technology Strike Force,” US Department of Justice, Feb. 16, 2023, <https://www.justice.gov/opa/pr/justice-and-commerce-departments-announce-creation-disruptive-technology-strike-force>.
- ³⁸ “Justice Department Announces Five Cases as Part of Recently Launched Disruptive Technology Strike Force,” US Department of Justice, May 16, 2023, <https://www.justice.gov/opa/pr/justice-department-announces-five-cases-part-recently-launched-disruptive-technology-strike>.
- ³⁹ New Zealand Government, *Secure Together: New Zealand’s National Security Strategy 2023-2028*, <https://www.dPMC.govt.nz/publications/aotearoas-national-security-strategy-secure-together-tatou-korowai-manaaki>.
- ⁴⁰ *Secure Together: New Zealand’s National Security Strategy 2023-2028*.
- ⁴¹ *Secure Together: New Zealand’s National Security Strategy 2023-2028*, p. 7.
- ⁴² The Federal Government of Germany, *Strategy on China of the Government of the Federal Republic of Germany*, July 13, 2023, <https://www.auswaertiges-amt.de/en/aussepolitik/regionaleschwerpunkte/asien/strategy-on-china/2608618>.
- ⁴³ *Strategy on China of the Government of the Federal Republic of Germany*.
- ⁴⁴ Julian Lewis, *China*, Intelligence and Security Committee of Parliament, July 13, 2023, <https://isc.independent.gov.uk/wp-content/uploads/2023/07/ISC-China.pdf>.

⁴⁵ Lewis, *China*.

⁴⁶ Lewis, *China*, p. 52.

⁴⁷ Lewis, *China*, p. 67.

⁴⁸ "Publication of the Intelligence and Security Committee's Report on China," Statement made by Rishi Sunak, Prime Minister, July 13, 2023, <https://questions-statements.parliament.uk/written-statements/detail/2023-07-13/hcws938>.

⁴⁹ *National Security Act of 2023*, The National Archives (UK), accessed Sept. 5, 2023, <https://www.legislation.gov.uk/ukpga/2023/32/contents>.

⁵⁰ Caroline Wheeler, Harry Yorke, Dipesh Gadhler, and Tim Shipman, "Commons Worker Arrested After Allegedly Spying for China," *Sunday Times (UK)*, Sept. 10, 2023, <https://www.thetimes.co.uk/article/british-national-arrested-suspicion-china-spy-parliamentary-researcher-xrtbrw86m>.

⁵¹ Lucy Fisher and Jim Pickard, "China Accused of Interfering in UK 'Parliamentary Democracy,'" *Financial Times*, Sept. 10, 2023, <https://www.ft.com/content/a3b91122-3881-4a15-8f13-cb21efae8df4>.

⁵² Ben Jiang, "China's Natural Science Fund Supports New 'Chiplet' Tech Research to Advance Semiconductor Self-Sufficiency Amid Threat of Fresh US Sanctions," Aug. 3, 2023, *South China Morning Post*, <https://www.scmp.com/tech/policy/article/3229760/chinas-natural-science-fund-supports-new-chiplet-tech-research-advance-semiconductor-self>.

⁵³ Jiang, "China's Natural Science Fund Supports New 'Chiplet' Tech Research."

⁵⁴ "Chiplets," *Semiconductor Engineering*, n.d., https://semiengineering.com/knowledge_centers/packaging/advanced-packaging/chiplets/.

⁵⁵ Jiang, "China's Natural Science Fund Supports New 'Chiplet' Tech Research."

⁵⁶ Ling Xin, "Lift-Off for Lingxi-03: China Tests Ultra-Thin Flexible Solar Wing for Satellite Network to Rival Elon Musk's Starlink," *South China Morning Post*, July 27, 2023, <https://www.scmp.com/news/china/science/article/3228943/china-tests-ultra-thin-flexible-solar-wing-it-prepares-satellite-megaconstellation-rival-elon-musks>.

⁵⁷ Xin, "Lift-Off for Lingxi-03."

⁵⁸ Andrew Jones, "Private Chinese Satellite Internet Firm GalaxySpace Secures Major New Funding," *Space News*, Sept. 9, 2022, <https://spacenews.com/chinese-satellite-internet-firm-galaxyspace-secures-major-new-funding/>.

⁵⁹ GalaxySpace, 银河航天完成新一轮融资 成为我国卫星互联网领域第一只独角兽 [Galaxy Aerospace Completes New Round of Financing and Becomes First Unicorn in Chinese Satellite Internet Industry], WeChat, Nov. 16, 2020, https://mp.weixin.qq.com/s/X7dtto8N222Mn_L6acdgsA.

⁶⁰ Stephen Chen, "China Plans Massive Listening Programme at the North Pole After Declaring Success in Arctic Test of Underwater Device," *South China Morning Post*, July 9, 2023, <https://www.scmp.com/news/china/science/article/3226755/china-plans-massive-listening-programme-north-pole-after-declaring-success-arctic-test-underwater>.

⁶¹ "About the Journal," *Chinese Journal of Polar Research*, SciEngine, <https://www.sciengine.com/CJPR/home>.

⁶² Chen, "China Plans Massive Listening Programme."

⁶³ Chen, "China Plans Massive Listening Programme."

⁶⁴ John Leicester, "France Is Investigating Suspected Smuggling to China and Russia of Advanced Chip Technology," Associated Press, July 27, 2023, <https://www.taiwannews.com.tw/en/news/4956017>.

⁶⁵ "France: The Boss of the Company Ommic Is Accused of Having Given Up Sensitive Technologies" (*France: Le Patron de l'Entreprise Ommic Accusé d'Avoir livré des Technologies Sensibles*), Radio France Internationale, July 27, 2023,

<https://www.rfi.fr/fr/france/20230727-france-le-patron-de-l-entreprise-omnic-accus%C3%A9-d-avoir-livr%C3%A9-des-technologies-sensibles>; Hugo Romani, “A French Boss Delivered Sensitive Information to the Chinese and the Russians” (*Un Patron Français a Livré des Informations Sensibles aux Chinois et aux Russes*), *Le Point*, July 27, 2023, https://www.lepoint.fr/monde/un-patron-francais-a-livre-des-informations-sensibles-aux-chinois-et-aux-russes-27-07-2023-2529759_24.php.

⁶⁶ Hugo Romani, “A French Boss Delivered Sensitive Information to the Chinese and the Russians” (*Un Patron Français a Livré des Informations Sensibles aux Chinois et aux Russes*), *Le Point*, July 27, 2023, https://www.lepoint.fr/monde/un-patron-francais-a-livre-des-informations-sensibles-aux-chinois-et-aux-russes-27-07-2023-2529759_24.php.

⁶⁷ “France: The Boss of the Company Omnic Is Accused of Having Given Up Sensitive Technologies” (France: Le Patron de l’Entreprise Omnic Accusé d’Avoir livré des Technologies Sensibles,” Radio France Internationale, July 27, 2023, <https://www.rfi.fr/fr/france/20230727-france-le-patron-de-l-entreprise-omnic-accus%C3%A9-d-avoir-livr%C3%A9-des-technologies-sensibles>.

⁶⁸ Leicester, “France Is Investigating Suspected Smuggling to China and Russia of Advanced Chip Technology.”

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