Trends in Science, Technology, and Economic Security in the US and Japan

Abstract

On Wednesday July 27, 2022, the US-Japan NEXT Alliance Initiative convened a bilateral dialogue on science, technology, and economic security. The in-person event welcomed around 20 American and Japanese participants from Japan’s cabinet office, US legislative staff, officials from both foreign ministries and other government departments. The discussion encompassed a range of topics, from bilateral science and technological cooperation, to supply chain resiliency and economic security legislation. This not-for-attribution summary describes the key points discussed at the event and provides supplementary details and context in which the event occurred; namely the Economic 2+2 ministerial meeting on July 29, recent economic security legislation in both countries, and efforts to boost science and technology cooperation.

Economic 2+2

State Minister for Cabinet Affairs in Charge of Economic Security and Science, Technology and Innovation (and Japan delegation leader) Ohno Keitaro began the discussion by noting the timely nature of the event, just two days before the inaugural US-Japan Economic Policy Consultative
Committee (EPCC) ministerial meeting. Foreign Minister Hayashi Yoshimasa and Secretary of State Antony Blinken along with Industry Minister Hagiuda Koichi and Commerce Secretary Gina Raimondo were preparing to discuss among other topics, the global economic hardship and supply chain stress caused by the ongoing COVID-19 pandemic, maintaining free and open economic growth in the Indo-Pacific and beyond, countering threats to economic security, and upholding the rules-based international economic order. Minister Ohno said that our informal dialogue could help supplement the EPCC and more importantly assist with follow through after the ministerial to make meaningful bilateral progress on economic security. He then posed a question to the group, asking what our economic security strategy should be and how it should be applied. He emphasized that while science and technology advances are central to the alliance, science and economic connections are at the nexus of many US-Japan initiatives, thus requiring robust coordination. He closed with a call for enhanced collaboration with like-minded countries and to further technological development and coordinated research as broadly as possible.

Legislation
In addition to the EPCC, the bilateral dialogue was held against the backdrop of votes in the US Congress on the “CHIPS and Science Act” and just a few months after Japan passed its own economic security legislation. A Japanese participant briefed the group on Japan’s Economic Security Promotion Act passed in May 2022, outlining their basic approach and relevant content. Comprised of five chapters, the new law contains provisions to promote national security through integrated implementation of economic policies including the need for some regulatory actions to consider national security impacts as well as economic factors. The four other chapters cover supply chain resiliency, protecting essential infrastructure, developing advanced technologies, and non-disclosure of selected patent applications. Advancing critical technologies was of particular interest to the group, especially Japan’s plans to establish a Public-Private Cooperation Council to help grow and guide investments for research and development (R&D) projects of designated critical technologies.

On the US side, an American participant from legislative staff said that the US Senate would soon pass the “CHIPS and Science Act,” which would significantly increase public funding to support semiconductor manufacturing and R&D in the United States, as well as greatly increase support
for scientific research. He noted that while the bill has been three years in the making and had been cut in half by about one thousand pages due to partisan differences, the core of the bill is similar to its original intent. Furthermore, the bill has a lot in common with Japan’s legislation in that it calls for strengthening the supply chain and supporting innovation and technology research. He noted that while money for semiconductors was fully appropriated, it would take time to determine the final spending amounts for broader scientific research. Definitions and details still need to be worked out, and there are other parts of the original bill that will need to be revisited in future legislation, but nonetheless this was a big step forward for the United States.

Another American participant emphasized that in a time of deep partisanship, this bill is bipartisan with two-thirds of the Senate in support, and it was likely to pass the House of Representatives as well. The participant noted that internationally, Senate Foreign Relations Committee Chairman Menendez (D-NJ) has promoted the idea of an “Article 5” (or collective security among allies) in the context of economic security, and this could be a basis for coordinating an allied response to Chinese or Russian attempts to apply economic coercion, for example. The group also discussed ways to potentially network alliance relationships in the realm of economic security and science collaboration.

Another American participant noted that specific trade measures or outbound investment references in the CHIPS and Science bill had been excluded, except as they related to receipt of semiconductor subsidies, but that there could be future legislation relating to some of these areas. Many Republican lawmakers worry that US high-tech investments could still end up in China, so this area of economic security will continue to be debated in Congress.

**Bilateral Science Cooperation Agenda**

Moving beyond recent legislative developments, the group turned its attention to the allied agenda for basic and applied science collaboration. An American participant began by noting that Dr. Arati Prabhakar, who will soon be confirmed to lead the Office of Science and Technology Policy in the White House, recently spoke on a variety of issues including science and technological research related to mitigating climate change. Dr. Prabhakar emphasized the need for more equitable STEM (science, technology, engineering and mathematics) education and for greater
diversity in the science and technology fields to attract a broader range of talents and perspectives. The participant added that Dr. Prabhakar’s stated R&D priorities include pandemic preparedness, the international cancer moonshot, and mitigating climate change. He also noted Prabhakar’s strong interest in bilateral cooperation, and he expected that the US and Japan will be able to convene their first Biden-era Joint High-Level Committee meeting on Science and Technology Cooperation before the year’s end.

An American participant said that there is recognition in both the United States and Japan that the technology and innovation side of economic security could not be ignored. She added that it is important for the allies to work together to support upstream opportunities and facilitate the successful development of startup firms. She continued, saying that innovation is boosted by academic exchange, training and partnerships. A good example of this is the Quad Tech and Business Forum which will be held later this year.

She also notified the group that the week prior, the White House released a memo entitled “Administration Cybersecurity Priorities for the FY 2024 Budget,” and that among these priorities were STEM education, strong science collaboration with allies and equitable growth and entry in the private sector. Enhancing STEM collaboration can boost the tech sector by bringing in a broader base of diverse thought. The memo also outlines ways to improve the defense and resilience of government networks (cyber investment priorities), deepening cross-sector collaboration in defense of critical infrastructure, and strengthening the foundations of our digitally enabled future.

**Telecom & Data**

An American participant described efforts by the State Department to meet technology and economic security challenges. He noted the Digital Freedom Unit is working to address Internet governance issues like the democratization of the Internet and promoting human rights via their cybersecurity division. State Department bilateral and multilateral offices are working with allies on telecom and digital policy to engage with organizations like the G7, G20, OECD, APEC and the Quad. A Japanese participant underscored the danger of misinformation and fake news, asking about the State Department’s efforts thus far in creating policy to combat fake news and the
challenge it poses to democracy. An American participant commented that to adequately combat fake news issues, multilateral cooperation is critical. The Japanese participant concurred, adding that while high-level government discussions are important, it is also necessary to share information and assessments at the expert level and to coordinate national and bilateral action against it.

Regarding data governance and Data Free Flow and Trust (DFFT), the State Department is working to clarify what this might entail, particularly in the context of international standards and allied perspectives. On fake news the participant cited cybersecurity policy as an effective way to counter disinformation. A policy team at the State Department is working to design policies that will effectively respond in a timely fashion with allies on the international stage. Another American participant pointed out that the US-Japan Global Digital Connectivity Partnership (GDCP) dialogue was a good place for that discussion to occur.

The GDCP dialogue, which will be held later this year in Washington, will likely include some alliance dialogue about critical and emerging technologies. An American participant called for a focus on enhancing the security of telecommunications networks (e.g., 5G/6G, subsea cables, and data centers), which are vital components of the digital economy. He also expressed a desire to work more closely with Japan on a variety of technology and economic security issues in collaboration with developing countries as potentially valuable partners and bridge the digital divide that exists in those nations. A Japanese participant agreed, and he underscored the importance of research security and industrial security to avoid technology leakage. He asked about steps being taken in the United States on this front and assured the American participants that Tokyo sees this as an important priority for Japan as well.

Conclusion

In the Economic 2+2 joint statement, Ministers Hayashi, Hagiuda, Blinken, and Raimondo “recognized the pandemic has significantly altered social and economic life through accelerated adoption of various technologies, including digital transformation, providing new opportunities as well as challenges. They noted technological innovation – including in critical and emerging technologies such as artificial intelligence, quantum technologies, and renewable and circular
technologies – presents transformative potential, as well as risks for our economies if abused.”¹ They emphasized that economic security is indispensable to overall security and that diplomacy and economic policy are intertwined and require a coordinated approach.

A Japanese participant at the breakfast roundtable said that science and technology research and development in Japan is improving. He highlighted a recent announcement by the Science Council of Japan that recognizes the difficulty of separating potential commercial versus defense use of any given technology, suggesting that dual use research would be acceptable to the Council.² He said that the Japanese public is realizing that the country must make preparations to deal with a more dangerous and complex security environment around Japan. The public’s realization of the need to improve the country’s technological capabilities provides the government more room to collaborate with allies and partners. He emphasized a need to do more in-depth analysis of scientific developments among like-minded countries, with a fundamental message being, “let’s collaborate.”

The US-Japan NEXT Alliance Initiative is a forum for bilateral dialogue, networking, and the development of joint recommendations involving a wide range of policy and technical specialists (in and out of government) to stimulate new alliance connections across foreign, security, and technology policy areas. Established by Sasakawa Peace Foundation USA with support from the Nippon Foundation, the goal is to help improve the alliance and how it serves shared interests, preparing it for emerging challenges within an increasingly complex and dynamic geostrategic environment. Launched in 2021, the Initiative includes two overlapping lines of effort: 1) Foreign & Security Policy, and 2) Technology & Innovation Connections. The Initiative is led by Sr. Director Jim Schoff.