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Defense Primer: The National Technology and Industrial Base

What Is the NTIB?

The *National Technology and Industrial Base* (NTIB), as outlined in 10 U.S.C. §4801, consists of the people and organizations engaged in national security and dual-use research and development (R&D) (i.e., R&D that has potential commercial and defense applications), production, maintenance, and related activities within the United States, Canada, the United Kingdom, Australia, and New Zealand. The statutory framework associated with the NTIB encompasses a range of U.S. national security objectives, including supplying military operations; conducting advanced R&D and systems development to promote the technical capabilities of the U.S. Armed Forces; securing reliable sources of critical materials; and developing industrial preparedness to support operations in wartime or during a national emergency.

Moreover, the aim of the NTIB is to enhance and strengthen the resilience of the U.S. defense industrial base by integrating the defense-related industries of key allies; facilitating collaborative research and innovation among NTIB members; and accelerating the trade of defense items among selected countries.

Establishment and Expansion of the NTIB

As the U.S. reduced defense spending after the end of the Cold War, Congress mandated a more active federal government role in shaping the U.S. technology and industrial base. For example, certain provisions in the FY1993 National Defense Authorization Act (P.L. 102-484; NDAA) codified congressional policies and requirements, including those associated with the NTIB. At this time, the NTIB included only the United States and Canada. Through the creation of new programs and policies designed to strengthen and leverage NTIB capabilities (10 U.S.C. §2491), Congress sought to formalize in statute what had been a traditionally close United States-Canada defense-industrial relationship.

Some analysts suggest that allies and potential adversaries alike are achieving technological parity with—and in some sectors, exceeding—the United States. In 1960, the United States accounted for approximately 69% of the world’s R&D funding. By 2022, the latest data available, the U.S. share of global R&D expenditures was about 30%. The U.S. decline in share of global R&D is not the result of a reduction in U.S. R&D investments—U.S. public and private R&D grew robustly during this period—but rather is the result of even greater increases in the investments of the governments and industries of other countries. Driven in part by concerns that the United States may cede its leadership role in science and technology and the need for the Department of Defense (DOD) to rely increasingly on technologies developed by commercial companies for

commercial markets, in the FY2017 NDAA (P.L. 114-328), Congress expanded the NTIB to include the United Kingdom and Australia. DOD is “using a secondary Department of War designation,” under Executive Order 14347, dated September 5, 2025. In expanding the NTIB, S.Rept. 114-255 accompanying S. 2943 (the Senate draft of the FY2017 NDAA) stated,

The committee is concerned about the barriers that current technology transfer rules, laws, and regulations pose to the incorporation of commercial technology into defense items and to the ability of defense contractors in the United States to work with other internal and external corporate entities in Canada, the United Kingdom, and Australia. The committee is also concerned that universities, non-profit research entities, non-traditional and commercial contractors that now conduct the majority of global research and development are increasingly running up against the U.S. technology transfer regime and are choosing to conduct more research overseas so as to not trigger export control rules. If these trends continue innovation may be increasingly conducted overseas with technology more readily available to potential adversaries than to the U.S. military because of the lack of civil-military integration of the national technical industrial base.

In the FY2023 NDAA (P.L. 117-263), Congress further expanded the NTIB to include New Zealand. In addition, the FY2026 NDAA (P.L. 119-160) directs DOD to convene a working group to study “the feasibility and advisability of including Israel” in the NTIB.

How Does the NTIB Operate?

The FY1993 NDAA established the National Defense Technology and Industrial Base Council (10 U.S.C. §4812) to ensure interagency cooperation in promoting the NTIB, among other things. The council consists of the Secretaries of Defense, Energy, Commerce, and Labor, and other officials appointed by the President. While this council coordinates activities across U.S. agencies in support of the NTIB, there is no public intergovernmental structure or governing body with representation of all NTIB member countries. The Secretary of Defense is also required to establish a national security strategy for the NTIB (10 U.S.C. §4811) as part of a biennial report to Congress addressing NTIB capabilities, performance, and vulnerabilities (10 U.S.C. §4814).

Statutory Benefits of NTIB Membership

NTIB countries benefit from certain statutory preferences. For example, procurement of conventional ammunition can be restricted to NTIB sources and must be from the NTIB

“in cases of national emergency or to achieve industrial mobilization” (10 USC Ch. 223: Front Matter). Legislation also specifies that DOD procurement of fire-resistant rayon fiber for uniforms from a non-NTIB member is permitted only if NTIB sources do not have the fiber (10 U.S.C. §4862 note). Buses, satellite “star trackers,” and certain components for naval vessels may similarly only be procured from NTIB manufacturers, unless the Secretary of Defense waives this restriction (10 U.S.C. §4864).

In addition, some NTIB entities may be exempted from certain National Industrial Security Program prohibitions, and may also be exempted from the requirement to obtain a national interest determination to be awarded a contract under a national security program (10 U.S.C. §4874).

Potential Barriers to Integration

Certain domestic sourcing requirements may conflict with the aim of the NTIB to integrate or merge the defense industrial bases of member countries. These sourcing requirements may include the Buy American Act (41 U.S.C. Ch. 83), the Byrnes-Tollefson Amendment (10 U.S.C. §8679), and policies implementing preferential treatment for domestic entities (e.g., small business set-asides for which only U.S. firms are eligible). Cross-border partnerships with U.S. small businesses could help foreign firms avoid these limits, but policy inconsistencies among NTIB countries, such as different thresholds to qualify as a small business, may limit the efficacy of such measures.

The U.S. export control system for certain categories of defense articles and services may present a barrier to closer integration. For example, the International Traffic in Arms Regulations (ITAR), administered by the State Department, restricts the export of defense-related articles and services that are inherently military in character and, if exported, could jeopardize U.S. national security or foreign policy interests. Compliance with the ITAR requires individuals or business entities to obtain a license from the State Department to export covered materials.

The ITAR provides licensing requirement exemptions for some U.S. exports to Canada and temporary imports from Canada to the United States; nevertheless, not all ITAR-controlled items fall under the Canadian exemptions. Additionally, ITAR exemptions are not uniformly available to other NTIB members. For example, the United States has bilateral defense trade cooperation treaties with the United Kingdom and Australia that provide limited licensing exemptions.

DOD Cooperation with Other Allies

DOD has promoted cooperation with non-NTIB allies and partners through mechanisms such as the U.S.-India Major Defense Partnership, as well as security of supply arrangements and reciprocal defense procurement agreements. For example, twenty countries operate the F-35 strike fighter aircraft, including all NTIB members except New Zealand.

While U.S. allies and partners include some of the most economically developed nations in the world, most are not part of the NTIB. For example, the World Intellectual

Property Organization’s *2025 Global Innovation Index* describes Switzerland, the Republic of Korea, Germany, and Israel as some of the most innovative economies globally. Experts have indicated that working closely with these countries—whether by expanding NTIB membership, strengthening bilateral agreements, or leveraging other multilateral arrangements—could increase U.S. access to technology and other critical innovations.

Policy Options for Congress

Some analysts from the United States and other NTIB member countries have stated that while increased cooperation continues to be a priority of NTIB members, the industrial bases of NTIB countries are not meaningfully unified, and have fallen short of the aspiration of “seamless integration” of the NTIB called for in the FY2017 NDAA.

Amending laws affecting integration of the NTIB:

Congress may consider amending technology transfer, socioeconomic preferences, export control, and related laws and regulations to promote NTIB integration. Some reform proposals have advocated changing or modifying provisions of the ITAR to extend the Canadian licensing exemptions to all NTIB members—particularly given the scale of defense-industrial cooperation necessary for implementation of the Australia-United Kingdom-United States (AUKUS) security pact.

Leveraging the NTIB in the acquisition of innovative commercial technologies:

Private sector R&D investments and commercial markets primarily influence the development of leading-edge technologies in fields such as artificial intelligence, robotics, advanced materials, and others important to national security and defense. Some analysts have recommended that the NTIB more effectively serve as a test bed for co-innovation (i.e., joint) projects and a means to further civil-military cooperation within NTIB member nations.

Directing DOD to harmonize international cooperation efforts:

The NTIB is part of a broader landscape of international defense cooperation mechanisms and authorities (e.g., trade agreements, defense trade cooperation treaties, bilateral or multilateral supply arrangements, and other security cooperation programs). Congress may consider whether and how to harmonize these efforts—by statutory changes, directing executive branch action, or appointing a commission to report on the landscape of DOD policies—particularly in light of congressional concerns regarding the capacity of domestic producers to meet production requirements during geopolitical crises.

Increasing international cooperation: Congress may consider expanding the NTIB to include other partners with shared interests and robust industrial bases. A successful expansion of the NTIB membership may rely on current members’ concurrence. An increase in membership could make it more difficult to coordinate joint activities and policies and may carry unforeseen national security risks.

Alexandra G. Neenan, Analyst in U.S. Defense Policy

Marcy E. Gallo, Analyst in Science and Technology Policy

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