

(i) that is deliberately released from a naturally occurring subsurface spring; or

(ii) using natural photosynthesis.

(3) The term “eligible laboratory” means—

(A) a National Laboratory (as defined in section 2 of the Energy Policy Act of 2005 (42 U.S.C. 15801));

(B) a science and technology reinvention laboratory designated under section 1105 of the National Defense Authorization Act for Fiscal Year 2010 (Public Law 111-84; 10 U.S.C. 2358 note);

(C) the Major Range and Test Facility Base (as defined in section 2358a(f) of title 10, United States Code); or

(D) any other facility that supports the research, development, test, and evaluation activities of the Department of Defense or the Department of Energy.

10 USC 2302 note.

**SEC. 224. REQUIRING DEFENSE MICROELECTRONICS PRODUCTS AND SERVICES MEET TRUSTED SUPPLY CHAIN AND OPERATIONAL SECURITY STANDARDS.**

Deadline.

(a) PURCHASES.—To protect the United States from intellectual property theft and to ensure national security and public safety in the application of new generations of wireless network technology and microelectronics, beginning no later than January 1, 2023, the Secretary of Defense shall ensure that each microelectronics product or service that the Department of Defense purchases on or after such date meets the applicable trusted supply chain and operational security standards established pursuant to subsection (b), except in a case in which the Department seeks to purchase a microelectronics product or service but—

(1) no such product or service is available for purchase that meets such standards; or

(2) no such product or service is available for purchase that—

(A) meets such standards; and

(B) is available at a price that the Secretary does not consider prohibitively expensive.

(b) TRUSTED SUPPLY CHAIN AND OPERATIONAL SECURITY STANDARDS.—

Deadline.

(1) STANDARDS REQUIRED.—(A) Not later than January 1, 2021, the Secretary shall establish trusted supply chain and operational security standards for the purchase of microelectronics products and services by the Department.

(B) For purposes of this section, a trusted supply chain and operational security standard—

(i) is a standard that systematizes best practices relevant to—

(I) manufacturing location;

(II) company ownership;

(III) workforce composition;

(IV) access during manufacturing, suppliers’ design, sourcing, manufacturing, packaging, and distribution processes;

(V) reliability of the supply chain; and

(VI) other matters germane to supply chain and operational security; and

(ii) is not a military standard (also known as “MIL-STD”) or a military specification (also known as “MIL-SPEC”) for microelectronics that—

(I) specifies individual features for Department of Defense microelectronics; or

(II) otherwise inhibits the acquisition by the Department of securely manufactured, commercially-available products.

(2) CONSULTATION REQUIRED.—In developing standards under paragraph (1), the Secretary shall consult with the following:

(A) The Secretary of Homeland Security, the Secretary of State, the Secretary of Commerce, and the Director of the National Institute of Standards and Technology.

(B) Suppliers of microelectronics products and services from the United States and allies and partners of the United States.

(C) Representatives of major United States industry sectors that rely on a trusted supply chain and the operational security of microelectronics products and services.

(D) Representatives of the United States insurance industry.

(3) TIERS OF TRUST AND LEVELS OF SECURITY AUTHORIZED.—

In carrying out paragraph (1), the Secretary may establish tiers and levels of trust and security within the supply chain and operational security standards for microelectronics products and services.

(4) GENERAL APPLICABILITY.—The standards established pursuant to paragraph (1) shall be, to the greatest extent practicable, generally applicable to the trusted supply chain and operational security needs and use cases of the United States Government and commercial industry, such that the standards could be widely adopted by government agencies, commercial industry, and allies and partners of the United States as the basis for procuring microelectronics products and services.

(5) ANNUAL REVIEW.—Not later than October 1 of each year, the Secretary shall, in consultation with persons and entities set forth under paragraph (2), review the standards established pursuant to paragraph (1) and issue updates or modifications as the Secretary considers necessary or appropriate.

Deadlines.  
Consultation.  
Updates.

(c) ENSURING ABILITY TO SELL COMMERCIALY.—

(1) IN GENERAL.—The Secretary shall, to the greatest extent practicable, ensure that suppliers of microelectronics products and services for the Department of Defense subject to subsection (a) are able and incentivized to sell products commercially and to governments of allies and partners of the United States that are produced on the same production lines as the microelectronics products supplied to the Department of Defense.

(2) EFFECT OF REQUIREMENTS AND ACQUISITIONS.—The Secretary shall, to the greatest extent practicable, ensure that the requirements of the Department and the acquisition by the Department of microelectronics enable the success of a dual-use microelectronics industry.

(d) MAINTAINING COMPETITION AND INNOVATION.—The Secretary shall take such actions as the Secretary considers necessary

and appropriate, within the Secretary’s authorized activities to maintain the health of the defense industrial base, to ensure that—

(1) providers of microelectronics products and services that meet the standards established under subsection (b) are exposed to competitive market pressures to achieve competitive pricing and sustained innovation; and

(2) the industrial base of microelectronics products and services that meet the standards established under subsection (b) includes providers manufacturing in the United States or in countries that are allies or partners of the United States.

**SEC. 225. DEVELOPMENT AND ACQUISITION STRATEGY TO PROCURE SECURE, LOW PROBABILITY OF DETECTION DATA LINK NETWORK CAPABILITY.**

Deadline.

(a) **STRATEGY REQUIRED.**—Not later than March 1, 2020, the Chief of Staff of the Air Force, the Chief of Naval Operations, and the Chief of Staff of the Army shall jointly submit to the congressional defense committees a joint development and acquisition strategy to procure a secure, low probability of detection data link network capability, with the ability to effectively operate in hostile jamming environments while preserving the low observability characteristics of the relevant platforms, including both existing and planned platforms.

(b) **NETWORK CHARACTERISTICS.**—The data link network capability to be procured pursuant to the development and acquisition strategy submitted under subsection (a) shall—

(1) ensure that any network made with such capability will be low risk and affordable, with minimal impact or change to existing host platforms and minimal overall integration costs;

(2) use a non-proprietary and open systems approach compatible with the Rapid Capabilities Office Open Mission Systems initiative of the Air Force, the Future Airborne Capability Environment initiative of the Navy, and the Modular Open Systems Architecture initiative of the Army; and

(3) provide for an architecture to connect, with operationally relevant throughput and latency—

(A) fifth-generation combat aircraft;

(B) fifth-generation and fourth-generation combat aircraft;

(C) fifth-generation and fourth-generation combat aircraft and appropriate support aircraft and other network nodes for command, control, communications, intelligence, surveillance, and reconnaissance purposes; and

(D) fifth-generation and fourth-generation combat aircraft and their associated network-enabled precision weapons.

Time period.

(c) **LIMITATION.**—Of the funds authorized to be appropriated by this Act for fiscal year 2020 for operation and maintenance for the Office of the Secretary of the Air Force, for operation and maintenance for the Office of the Secretary of the Navy, and for operations and maintenance for the Office of the Secretary of the Army, not more than 50 percent may be obligated or expended until the date that is 15 days after the date on which the Chief of Staff of the Air Force, the Chief of Naval Operations, and the Chief of Staff of the Army, respectively, submit the development and acquisition strategy required by subsection (a).