



**Annual Report to Congress
On Direct Commercial Sales Authorizations to
Foreign Countries and International Organizations for Fiscal Year 2020
Sec. 655 of the Foreign Assistance Act of 1961, as Amended**

Overview

This report documents defense articles and defense services licensed for permanent export under Section 38 of the Arms Export Control Act (AECA), 22 U.S.C. 2778, to each foreign country and international organization during fiscal year (FY) 2020, in response to the requirements in Section 655(b)(3) of the Foreign Assistance Act (FAA) of 1961, as amended. The report specifies the aggregate dollar value and quantity of defense articles, and defense services, authorized to each foreign country and international organization during the fiscal year, as well as data on the actual shipments of those licensed transactions. The actual shipment data shows the total dollar value of all shipments that were authorized and exported during the fiscal year to each destination. Authorizations in this report are categorized based on the destination country. The Department of Defense will report International Military Education and Training activities separately. In accordance with subsection (c) of Section 655, this report is also being made available to the public on the internet through the Department of State, Directorate of Defense Trade Controls (DDTC), at www.pmdtdc.state.gov.

On January 23, 2020, the Department amended the International Traffic in Arms Regulations (22 CFR Parts 120-130) to revise U.S. Munitions List (USML) Categories I-III to prescribe precisely the articles that provide critical military or intelligence advantage or perform inherently military function and warrant control on the USML. These changes took effect on March 9, 2020. Therefore, the Department is providing information on the defense articles and services under its jurisdiction at the time of authorization.

In addition to reporting information related to exports licensed under Section 38 of the AECA, Section 655(b)(3) of the FAA also requires the specification of semiautomatic weapons and spare parts for such weapons; such data is provided in

the appendix, as reflected in Category I(a) and I(h) in the USML, respectively. Since items under these subcategories transitioned to the Department of Commerce, they are only reported if the license application was received prior to March 9, 2020, and subsequently approved.

Authorizations applicable to multiple countries in the appendix are included under the designation "Various." Since documentation for shipping purposes requires a definitive destination be declared, actual shipments for those articles approved under the designation "Various" are attributed to the country listed on the shipping documentation.

The value of authorizations for defense articles and defense services does not correlate precisely to the value of articles actually transferred during the reporting period. Most licenses issued for defense articles are valid for four years and may be used throughout the four years to execute authorized transactions. Similarly, manufacturing license and technical assistance agreements cover a wide range of programmatic activities for multiyear periods (generally exceeding the four-year validity period of defense-article export licenses). Export authorizations furnished in FY 2020 also include certain activities occurring in prior years because the scope of the Department's regulatory authority over such agreements continues for as long as these multiyear agreements remain in effect.

The categories of the USML used throughout this report are as follows; subcategory descriptions are provided for reference only. Exports by subcategory, except Categories I(a) and I(h) through March 9, 2020, are not detailed in the appendices.

USML Categories I-III Reported prior to March 9, 2020

Category I Firearms, Close Assault Weapons, and Combat Shotguns

- (a) Nonautomatic and semiautomatic firearms to caliber .50 inclusive
- (b) Fully automatic firearms to .50 calibers inclusive
- (c) Firearms and other weapons having special military application
- (d) Combat shotguns
- (e) Silencers, mufflers, sound and flash suppressors
- (f) Riflescopes manufactured to military specification
- (g) Barrels, cylinders, receivers, or breech mechanisms
- (h) Components, parts, accessories, and attachments
- (i) Technical data and defense services

Category II Guns and Armament

- (a) Guns over caliber .50
- (b) Flame throwers
- (c) Apparatus and devices for launching or delivering ordnance
- (d) Kinetic energy weapon systems
- (e) Signature control materials, techniques, and equipment
- (f) Engines specifically designed or modified for self-propelled guns and howitzers
- (g) Tooling and equipment
- (h) Test and evaluation equipment
- (i) Autoloading systems for electronic programming of projectile functions
- (j) Components, parts, accessories, attachments, and associated equipment
- (k) Technical data and defense services

Category III Ammunition/Ordnance

- (a) Ammunition/ordnance for Categories I & II articles
- (b) Ammunition/ordnance handling equipment
- (c) Equipment and tooling
- (d) Components, parts, accessories, attachments, and associated equipment:
 - (1) Guidance and control components.
 - (2) Safing, arming, and fuzing components; and
 - (3) All other components, parts, accessories, attachments and associated equipment.
- (e) Technical data and defense services

USML Categories Reported after March 9, 2020

Category I Firearms and Related Articles

- (a) Firearms using caseless ammunition
- (b) Fully automatic firearms to .50 calibers inclusive
- (c) Firearms specifically designed to integrate fire control, automatic tracking, or automatic firing
- (d) Fully automatic shotguns
- (e) Silencers, mufflers, sound and sound suppressors
- (f) [Reserved]
- (g) Barrels, receivers (frames), bolts, bolt carriers, slides, or sears

- (h) Components, parts, accessories, and attachments
 - (1) Drum and other magazines for firearms to .50 caliber with a capacity greater than 50 rounds
 - (2) Parts and components specially designed for conversion of semi-automatic firearms to a fully automatic firearm
 - (3) Parts and components specially designed for defense articles described in paragraphs (c) and (e)
 - (4) Accessories or attachments specially designed to automatically stabilize aim (other than gun rests) or for automatic targeting, and specially designed parts and components
- (i) Technical data and defense services directly related to this category and classified technical data directly related to items controlled in ECCNs 0A501, 0B501, 0E501 and defense services using classified data.

Category II Guns and Armament

- (a) Guns and armament greater than .50 caliber
 - (1) Guns, howitzers, artillery, and cannons.
 - (2) Mortars.
 - (3) Recoilless rifles.
 - (4) Grenade launchers; or
 - (5) Developmental guns and armament greater than .50 caliber funded by the Department of Defense and specially designed parts and components.
- (b) Flame throwers with an effective range of at least 20 meters
- (c) [Reserved]
- (d) Kinetic energy weapon systems
- (e) Signature reduction devices specially designed for the guns and armament controlled in paragraphs (a), (b), and (d) of this category
- (f) – (i) [Reserved]
- (j) Parts, components, accessories, and attachments as follows:
 - (1) Gun barrels, rails, tubes, and receivers specially designed for the weapons controlled in paragraphs (a) and (d) of this category.
 - (2) Sights specially designed to orient indirect fire weapons.
 - (3) Breech blocks for the weapons controlled in paragraphs (a) and (d) of this category.
 - (4) Firing mechanisms for the weapons controlled in paragraphs (a) and (d) of this category and specifically designed parts and components.

- (5) Systems for firing superposed or stacked ammunition and specially designed parts and components.
- (6) Servo-electronic and hydraulic elevation adjustment mechanisms.
- (7) Muzzle brakings.
- (8) Bore evacuators.
- (9) Independent ammunition handling systems for the guns and armament controlled in paragraphs (a), (b), and (d) of this category.
- (10) Components for independently powered ammunition handling systems and platform interface, as follows:
 - (i) Mounts.
 - (ii) Carriages.
 - (iii) Gun pallets.
 - (iv) Hydro-pneumatic equilibration cylinders; or
 - (v) Hydro-pneumatic systems capable of scavenging recoil energy to power howitzer functions.
- (11) Ammunition containers/drums, ammunition chutes, ammunition conveyor elements, ammunition feeder systems, and ammunition container/drum entrance and exit units, specially designed for the guns and armament controlled in paragraphs (a), (b), and (d) of this category.
- (12) Systems and equipment for the guns and armament controlled in paragraphs (a) and (d) of this category for use in programming ammunition, and specially designed parts and components.
- (13) Aircraft/gun interface units to support gun systems with a designed rate of fire greater than 100 rounds per minute and specially designed parts and components.
- (14) Recoil systems specially designed to mitigate the shock associated with the firing process of guns integrated into air platforms and specially designed parts and components.
- (15) Prime power generation, energy storage, thermal management, conditioning, switching, and fuel-handling equipment, and the electrical interfaces between the gun power supply and other turret electric drive components specially designed for kinetic weapons controlled in paragraph (d) of this category.
- (16) Kinetic energy weapon target acquisition, tracking fire control, and damage assessment systems and specially designed parts and components; or
- (17) Any part, component, accessory, attachment, equipment, or system that:
 - (i) Is classified.

- (ii) Contains classified software; or
- (iii) Is being developed using classified information.
- (k) Technical data directly related to the defense articles described in paragraphs (a), (b), (d), (e), and (j) of this category and classified technical data directly related to items controlled in ECCNs 0A602, 0B602, 0D602, and 0E602 and defense services using the classified technical data
- (l)-(w) [Reserved]
- (x) Commodities, software, and technology subject to the EAR (used in or with defense articles)

Category III Ammunition and Ordnance

- (a) Ammunition, as follows:
 - (1) Ammunition that incorporates a projectile controlled in paragraph (d)(1) or (3) of this category.
 - (2) Ammunition preassembled into links or belts.
 - (3) Shotgun ammunition that incorporates a projectile controlled in paragraph (d)(2) of this category.
 - (4) Caseless ammunition manufactured with smokeless powder.
 - (5) Ammunition, except shotgun ammunition, based on non-metallic cases, or non-metallic cases that have only a metallic base, which result in a total cartridge mass 80% or less than the mass of a brass- or steel-cased cartridge that provides comparable ballistic performance.
 - (6) Ammunition employing pyrotechnic material in the projectile base or any ammunition employing a projectile that incorporates tracer materials of any type having peak radiance above 710 nm and designed to be observed primarily with night vision optical systems.
 - (7) Ammunition for fully automatic firearms that fire superposed or stacked projectiles or for guns that fire superposed or stacked projectiles.
 - (8) Electromagnetic armament projectiles or billets for weapons with a design muzzle energy exceeding 5 MJ.
 - (9) Ammunition, not specified above, for the guns and armaments controlled in Category II; or
 - (10) Developmental ammunition funded by the Department of Defense and specially designed parts and components therefor.
- (b) Ammunition/ordnance handling equipment specially designed for the articles controlled in this category, as follows:

- (1) Belting, linking, and delinking equipment; or
 - (2) Fuze setting devices.
- (c) [Reserved]
- (d) Parts and components for the articles in this category, as follows:
- (1) Projectiles that use pyrotechnic tracer materials that incorporate any material having peak radiance above 710 nm or are incendiary or explosive.
 - (2) Shotgun projectiles that are flechettes, incendiary, tracer, or explosive.
 - (3) Projectiles of any caliber produced from depleted uranium.
 - (4) Projectiles not specified above, guided or unguided, for the items controlled in USML Category II, and specially designed parts and components therefor (e.g., fuzes, rotating bands, cases, liners, fins, boosters).
 - (5) Canisters or submunitions (e.g., bomblets or minelets), and specially designed parts and components therefor, for the guns or armament controlled in USML Category II.
 - (6) Projectiles that employ tips (e.g., M855A1 Enhanced Performance Round (EPR)) or cores regardless of caliber, produced from one or a combination of the following: Tungsten, steel, or beryllium copper alloy.
 - (7) Cartridge cases, powder bags, or combustible cases specially designed for the items controlled in USML Category II.
 - (8) Non-metallic cases, including cases that have only a metallic base, for the ammunition controlled in paragraph (a)(5) of this category.
 - (9) Cartridge links and belts for fully automatic firearms and guns controlled in USML Categories I or II.
 - (10) Primers other than Boxer, Berdan, or shotshell types.
 - (11) Safing, arming, and fuzing components (to include target detection and proximity sensing devices) for the ammunition in this category and specially designed parts therefor.
 - (12) Guidance and control components for the ammunition in this category and specially designed parts therefor.
 - (13) Terminal seeker assemblies for the ammunition in this category and specially designed parts and components therefor.
 - (14) Illuminating flares or target practice projectiles for the ammunition controlled in paragraph (a)(9) of this category; or
 - (15) Any part, component, accessory, attachment, equipment, or system that:
 - (i) Is classified.

- (ii) Contains classified software; or
- (iii) Is being developed using classified information.
- (e) Technical data and defense services directly related to the defense articles enumerated in paragraphs (a), (b), and (d) of this category and classified technical data directly related to items controlled in ECCNs 0A505, 0B505, 0D505, and 0E505 and defense services using the classified technical data.
- (f)-(w) [Reserved]
- (x) Commodities, software, and technology subject to the EAR (*see* §120.42 of this subchapter) used in or with defense articles.

Category IV Launch Vehicles, Guided Missiles, Ballistic Missiles, Rockets, Torpedoes, Bombs, and Mines

- (a) Rockets, space launch vehicles (SLVs), missiles, bombs, torpedoes, depth charges, mines, and grenades
- (b) Launchers for rockets, SLVs, and missiles
- (c) Apparatus and devices specifically designed for the handling, control, activation, monitoring, detection, protection, discharge, or detonation of the articles in (a) and (b)
- (d) Rocket, SLV, and missile power plants
- (e) – (f) [Reserved]
- (g) Non-nuclear warheads for rockets, bombs, and missiles
- (h) Systems, subsystems, parts, components, accessories, attachments, or associated equipment
- (i) Technical data and defense services
- (j) – (w) [Reserved]
- (x) Commodities, software, and technical data subject to the Export Administration Regulations (EAR)

Category V Explosives and Energetic Materials, Propellants, Incendiary Agents, and Their Constituents

- (a) Explosives
- (b) Propellants
- (c) Pyrotechnics, fuels, and related substances
- (d) Oxidizers
- (e) Binders
- (f) Additives
- (g) Precursors

- (h) Any explosive, propellant, pyrotechnic, fuel, oxidizer, binder, additive, or precursor
- (i) Developmental explosives, propellants, pyrotechnics, fuels, oxidizers, binders, additives, or precursor
- (j) Technical data and defense services
- (k) Interpretation of use of terms
- (l) - (w) [Reserved]
- (x) Commodities, software, and technical data subject to the EAR

Category VI Surface Vessels of War and Special Naval Equipment

- (a) Warships and other combat vessels, Coast Guard Cutters, or foreign-origin vessels
- (b) Other vessels not controlled in paragraph (a)
- (c) Developmental vessels
- (d) [Reserved]
- (e) Naval nuclear propulsion plants and prototypes, and special facilities for construction, support, and maintenance
- (f) Vessel and naval equipment, parts, components, accessories, attachments, associated equipment and systems
- (g) Technical data and defense services
- (h) - (w) [Reserved]
- (x) Commodities, software, and technical data subject to the EAR

Category VII Ground Vehicles

- (a) Armored combat ground vehicles
- (b) Ground vehicles and trailers that are armed or specially designed to be used as a firing or launch platform
- (c) Ground vehicles and trailer equipped with any mission systems
- (d) [Reserved]
- (e) Armed support vehicles capable of off-road or amphibious use
- (f) [Reserved]
- (g) Ground vehicle parts, components, accessories, attachments, associated equipment, and systems
- (h) Technical data and defense services
- (i) - (w) [Reserved]
- (x) Commodities, software, and technical data subject to the EAR

Category VIII Aircraft and Related Articles

- (a) Aircraft, including but not limited to bombers, fighters, turbofan- or turbojet-powered, attack helicopters, armed and unarmed UAVs
- (b) – (c) [Reserved]
- (d) Ship-based launching and recovery equipment
- (e) Inertial navigation systems, aided or hybrid inertial navigation systems, Inertial Measurement Units, and Attitude and Heading Reference Systems
- (f) Developmental aircraft
- (g) [Reserved]
- (h) Aircraft parts, components, accessories, attachments, associated equipment, and systems
- (i) Technical data and defense services
- (j) – (w) [Reserved]
- (x) Commodities, software, and technical data subject to the EAR

Category IX Military Training Equipment and Training

- (a) Training equipment
- (b) Simulators
- (c) – (d) [Reserved]
- (e) Technical data and defense services
- (f) – (w) [Reserved]
- (x) Commodities, software, and technical data subject to the EAR

Category X Personal Protective Equipment

- (a) Personal protective equipment
- (b) – (c) [Reserved]
- (d) Parts, components, assemblies, accessories, attachments, and associated equipment
- (e) Technical data and defense services
- (f) – (w) [Reserved]
- (x) Commodities, software, and technical data subject to the EAR

Category XI Military Electronics

- (a) Electronic equipment and systems not included in Category XII

- (b) Electronic systems or equipment specially designed for intelligence purposes that collect, survey, monitor, or exploit the electromagnetic spectrum
- (c) Parts, components, accessories, attachments, and associated equipment
- (d) Technical data and defense services
- (e) – (w) [Reserved]
- (x) Commodities, software, and technical data subject to the EAR

Category XII Fire Control, Laser, Imaging, and Guidance Equipment

- (a) Fire control, aiming, detection, guidance, and tracking systems
- (b) Laser systems and end items
- (c) Imaging systems or end items
- (d) Guidance and navigation systems or end items
- (e) Components, parts, accessories, or attachments
- (f) Technical data and defense services
- (g) – (w) [Reserved]
- (x) Commodities, software, and technical data subject to the EAR

Category XIII Materials and Miscellaneous Articles

- (a) [Reserved]
- (b) Information security or information assurance systems and equipment, cryptographic devices, software, and components
- (c) [Reserved]
- (d) Ablative materials fabricated or semi-fabricated from advanced composites or carbon/carbon billets and preforms
- (e) Armor, and armor materials
- (f) Any article enumerated in this category that is classified or contains classified software directly related to defense articles in this subchapter or 600 series items subject to the EAR
- (g) Concealment and deception equipment
- (h) Energy conversion devices not otherwise enumerated in this subchapter
- (i) Signature reduction software and technical data
- (j) Equipment, materials, coatings, and treatments not otherwise specified
- (k) Tooling and equipment
- (l) Technical data directly related to defense articles described in paragraphs (a) through (h), (j), and (k) of this category
- (m) Interpretation of terms used
- (n) – (w) [Reserved]

- (x) Commodities, software, and technical data subject to the EAR

Category XIV Toxicological Agents, Including Chemical Agents, Biological Agents, and Associated Equipment

- (a) Chemical agents
- (b) Biological agents and biologically derived substances
- (c) Chemical agent binary precursors and key precursors
- (d) [Reserved]
- (e) Defoliants
- (f) Parts, components, accessories, attachments, associated equipment, materials, and systems
- (g) Antibodies, recombinant protective antigens, polynucleotides, biopolymers, or biocatalysts
- (h) Vaccines specially designed to protect against biological agents and biologically derived substances in paragraph (b) of this category
- (i) Modeling or simulation tools specifically designed or modified for chemical or biological weapons design, development, or employment
- (j) – (l) [Reserved]
- (m) Technical data and defense services
- (n) Developmental countermeasures or sorbents funded by the Department of Defense
- (o) – (w) [Reserved]
- (x) Commodities, software, and technology subject to the EAR

Category XV Spacecraft and Related Articles

- (a) Spacecraft, including satellites and space vehicles whether designated developmental, experimental, research, or scientific, or having a commercial, civil, or military end-use
- (b) Ground control systems or training simulators specially designed for telemetry, tracking, and control of spacecraft in paragraph (a) of this category
- (c) Global Positioning System (GPS) receiving equipment
- (d) [Reserved]
- (e) Spacecraft parts, components, accessories, attachments, equipment, or systems
- (f) Technical data and defense services
- (g) – (w) [Reserved]
- (x) Commodities, software, and technology subject to the EAR

Category XVI Nuclear Weapons Related Articles

- (a) [Reserved]
- (b) Modeling or simulation tools that model or simulate the environments generated by nuclear detonations or the effects of these environments on systems, subsystems, components, structures, or humans
- (c) [Reserved]
- (d) Parts, components, accessories, attachments, associated equipment, and production, testing, and inspection equipment and tooling
- (e) Technical data and defense services
- (f) – (w) [Reserved]
- (x) Commodities, software, and technical data subject to the EAR

Category XVII Classified Articles, Technical Data, and Defense Services Not Otherwise Enumerated

- (a) All articles, technical data and defense services that are classified in the interests of national security and that are not otherwise enumerated in the U.S. Munitions List.

Category XVIII Directed Energy Weapons

- (a) Directed energy weapons
- (b) Systems or equipment specifically designed to detect, identify, or provide defense against articles specified in paragraph (a) of this category
- (c) – (d) [Reserved]
- (e) Components, parts, accessories, attachments, systems, or associated equipment specifically designed for any articles in paragraphs (a) or (b) of this category
- (f) Developmental directed energy weapons funded by the Department of Defense and specially designed parts and components therefor
- (g) Technical data and defense services
- (h) Commodities, software, and technology subject to the EAR

Category XIX Gas Turbine Engines and Associated Equipment

- (a) Turbofan and Turbojet engines capable of 15,000 lb of thrust or greater

- (b) Turboshaft and Turboprop engines capable of 1500 mechanical shp or greater and are specially designed with oil sump sealing when the engine is in the vertical position
- (c) Engines specially designed for armed or military unmanned aerial vehicle systems, cruise missiles, or target drones
- (d) GE38, AGT1500, CTS800, TF40B, T55, TF60, and T700 engines
- (e) Digital engine control systems specially designed for gas turbine engines
- (f) Parts, components, accessories, attachments, associated equipment, and systems
- (g) Technical data and defense services
- (h)– (w) [Reserved]
- (x) Commodities, software, and technical data subject to the EAR

Category XX Submersible Vessels and Related Articles

- (a) Submersible and semi-submersible vessels
- (b) Engines, electric motors, and propulsion plants
- (c) Parts, components, accessories, attachments, and associated equipment including production, testing, and inspection equipment and tooling specifically designed or modified for any of the articles in paragraphs (a) and (b) of this category
- (d) Technical data and defense services

Category XXI Articles, Technical Data, and Defense Services Not Otherwise Enumerated

- (a) Any article not enumerated on the U.S. Munitions List may be included in this category until such time as the appropriate U.S. Munitions List category is amended.
- (b) Technical data and defense services