

**Report to Congress on  
Direct Commercial Sales Authorizations to Foreign Countries and International  
Organizations for Fiscal Year 2019  
Sec. 655 of the Foreign Assistance Act of 1961**

**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 FY 2019, 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, defense services, and international military education and training activities by category, 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 to each destination. Authorizations in this report are categorized based on the destination country. 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.pmdtcc.state.gov](http://www.pmdtcc.state.gov).

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 Category I(a) and I(h), respectively. Additionally, 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 multi-year periods (generally exceeding the four-year validity period of defense-article export licenses). Export authorizations furnished in FY 2019 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 multi-year agreements remain in effect.

The categories of the U.S. Munitions List (USML) used throughout this report are as follows; sub-category descriptions are provided for reference only. Exports by sub-category, except Categories I(a) and I(h), are not detailed in the appendices.

- Category I            Firearms, Close Assault Weapons and Combat Shotguns
- (a) Non-automatic and semi-automatic 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

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