



# U.S. Approaches to Emerging Technology

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# Agenda

- Export Control Reform Act of 2018
  - Requirements
  - Current Processes
  - Challenges
  - Emerging Technology Technical Advisory Committee
- Role of the OY521 Process
- Section 1049 of the Fiscal Year 2019 National Defense Authorization Act
- Critical and Emerging Technologies Policy Coordination Committee
- Summary



# Export Control Reform Act of 2018 (ECRA)

## Section 1758:

- Shall establish a regular, ongoing interagency process to identify emerging and foundational technologies that are essential to the national security of the United States
- Shall establish appropriate controls under the Export Administration Regulations on the export, reexport, or in-country transfer of technology identified
- As appropriate, shall propose that any technology identified be added to the list of technologies controlled by the relevant multilateral export control regimes
- Revise the objectives of the Emerging Technology and Research Advisory Committee



# ECRA Section 1758

## **Process shall be informed by:**

- Publicly available information
- Classified information
- Information relating to reviews and investigations of transactions by the Committee on Foreign Investment in the United States
- Information provided by advisory committees

## **Process shall take into account:**

- Development of emerging and foundational technologies in foreign countries
- The effect imposition of export controls may have on the development of such technologies in the United States
- The effectiveness imposition of export controls would have on limiting the proliferation of emerging and foundational technologies



# Advanced Notice of Proposed Rule Making (ANPRM)

## **November 19, 2018 *Federal Register* notice**

- Requested public comment on criteria for identifying emerging technologies essential to the national security of the United States
- Representative technology categories
  - (i) biotechnology; (ii) artificial intelligence; (iii) Position, Navigation, and Timing (PNT) technology; (iv) microprocessor technology; (v) advanced computing technology; (vi) data analytics technology; (vii) quantum information and sensing technology; (viii) logistics technology; (ix) additive manufacturing; (x) robotics; (xi) brain-computer interfaces; (xii) hypersonics; (xiii) advanced materials; and (xiv) advanced surveillance technologies
- Over 200 comments received
- Foundational technologies to be addressed in a separate ANPRM



# Technology Assessment

## Department of Commerce / Bureau of Industry and Security

- Established teams for each of the 14 technology areas
  - Reaching out to the interagency, academia, research community, TACs, and industry for targeted input
  - Developing Proposed Rules and proposals for interagency and multilateral regime consideration

## U.S. Government coordinated effort

- National Security Council over-seeing interagency “Sprint Groups”
  - Rapid and focused assessment and development of regulatory action on discrete technologies
  - Just completed: Artificial Intelligence, Additive Manufacturing, Quantum
  - Currently reviewing: Microprocessors, Advanced Computing, Advanced Materials



# Challenges

- What is considered “emerging”?
- Identification of choke-points
- Rapid evolution/ pace of advancement
- Ubiquity
- Open source / published
- Avoiding negative impacts to research and technological advances



# Emerging Technology Technical Advisory Committee (ETTAC)

**August 8, 2018 *Federal Register* notice**

Purpose: To advise on emerging technologies with potential dual-use applications

- To identify as early as possible in their developmental stages
- Chokepoint analysis
- Assess potential impact of export controls
- Focus on the current states of emerging technologies and projecting their likely effects 5-10 years in the future on national security, the U.S. defense industrial base, and overall health and competitiveness of the U.S. economy
- Membership: academia, industry, federal laboratories, U.S. Government





# Role of the 0Y521 Process

**August 13, 2012 *Federal Register* notice**

Established Export Control Classification Number (ECCN) 0Y521 series to identify items that warrant control on the Commerce Control List but are not yet identified in an existing ECCN

- Provides rapid process for capturing new or emerging technologies
- Identified items provide at least a significant military or intelligence advantage to the United States or other foreign policy reasons justify such control
- Listed with concurrence of the State Department and other agencies as appropriate
- Temporary for one-year
  - Can be extended for two 1-year periods to provide time for the U.S. Government to reach multilateral regime consensus
  - Further extensions if the Under Secretary for Industry and Security determines it is in the national security or foreign policy of the United States



# Critical & Emerging Technologies Policy Coordination Committee

- Chaired by the National Security Council
- Focal point for development and coordination of national security policies and strategies related to promoting and protecting critical and emerging technologies
- Development of a critical and emerging technologies list
  - Government-wide resource
  - Monitor progress, overlaps, and gaps against priorities to make informed decisions



# Summary

- Emerging technologies may represent a proliferation risk
- Identifying those emerging technologies of the most potential risk is difficult
  - Requires a whole-of-government effort
  - Requires input from experts in academia, research communities, and industry
  - Requires knowledge of proliferators' activities
- Challenges for imposition of export controls
  - Chokepoint analysis
  - Multilateralization
  - Keeping pace with technological advances



# Entity List



# Entity List Overview

- Additions, modifications and removals are determined by an interagency committee, called the End-User Review Committee (ERC), chaired by the Department of Commerce
- The list includes foreign persons involved in activities contrary to U.S. foreign policy or national security
- The license requirement for exports, exports and/or transfers (in-country) of U.S. origin items are identified in the listing



# Entity List Additions

- 28 Chinese entities were added to the Entity List on October 9<sup>th</sup>, 2019
- A license is hereby required for exports, exports and/or transfers (in-country) of all U.S. origin items to these entities, except for certain items identified in the listing
- 20 of these entities engaged in human rights violations and abuses, while the other 8 commercial entities enabled these activities
- These activities include the implementation of China's campaign of repression, mass arbitrary detention, and high-technology surveillance against Uighurs, Kazakhs, and other members of Muslim minority groups in the Xinjiang Uighur Autonomous Region

# Xinjiang Uighur Autonomous Region Government Entities

- Xinjiang Uighur Autonomous Region People's Government Public Security Bureau
- 18 subordinate municipal and county public security bureaus:
  - Aksu District Public Security Bureau; Altay Municipality Public Security Bureau; Bayingolin Mongolian Autonomous Prefecture Public Security Bureau; Boertala Mongolian Autonomous Prefecture Public Security Bureau; Changji Hui Autonomous Prefecture Public Security Bureau; Hami Municipality Public Security Bureau; Hetian Prefecture Public Security Bureau; Kashgar Prefecture Public Security Bureau; Kalamayi Municipality Public Security Bureau; Kezilesu Kyrgyz Autonomous Prefecture Public Security Bureau; Shihezi Municipality Public Security Bureau; Tacheng Prefecture Public Security Bureau; Tumushuke Municipal Public Security Bureau; Turfan Municipality Public Security Bureau; Urumqi Municipal Public Security Bureau; Wujiaqu Municipality Public Security Bureau; Xinjiang Production and Construction Corps (XPCC) Public Security Bureau; and Yili Kazakh Autonomous Prefecture Public Security Bureau
- Xinjiang Police College



# Xinjiang Uighur Autonomous Region Commercial Entities

- Dahua Technology
- Hikvision
- IFLYTEK
- Megvii Technology
- Sense Time
- Xiamen Meiya Pico Information Co. Ltd.
- Yitu Technologies
- Yixin Science and Technology Co. Ltd.





# ERC Contact Information

- All rules include the appropriate contact from the Bureau of Industry and Security
- For the ERC, the contact information is below:
  - 202-482-5991
  - [ERC@bis.doc.gov](mailto:ERC@bis.doc.gov)



# Sanctions





# Cuba

- Authorization required for all items subject to the Export Administration Regulations (EAR)
- License Exceptions
  - Agriculture
  - Support for the Cuban People (SCP)
  - Aircraft and Vessels on Temporary Sojourn (AVS)
  - Consumer Communication Devices (CCD)
- Favorable/case-by-case licensing policy
  - Medicines and medical devices
  - Telecommunications
  - Needs of Cuban people
  - Environmental Protection
  - Safety of Civil Aviation

# Cuba

- **General Policy of Denial**
  - Non-commercial aircraft and non-cargo vessels on temporary sojourn
  - Items to military, police, intelligence or security services
  - Items for use by state-owned enterprises that primarily generate revenue for the state, including those engaged in tourism and those engaged in the extraction or production of minerals or raw materials
  - Items for reexport and that enable the export of goods and services from Cuba (other than from the private sector)

# Iran

- BIS currently maintains license requirements on Commerce Control List (CCL) items
- EAR99 items require licenses in very limited circumstances
- The Office of Foreign Assets Control (OFAC) is the primary licensing agency
  - If OFAC authorizes an export or reexport to Iran, no additional BIS license is required
  - Except for EAR Part 744 end use/user controls such as parties on the Entity List and persons subject to denial orders (CCL and EAR99 items) and deemed exports/reexports (CCL items)

# North Korea

- Authorization required for all items subject to the EAR
  - Except food and medicine designated EAR99
- Favorable licensing policy (policy of approval)
  - Humanitarian items intended for the benefit of the North Korean people
  - Items in support of United Nations humanitarian efforts
  - Certain agricultural commodities or medical devices
- General Policy of Denial
  - Items controlled for nuclear nonproliferation and missile technology
  - Arms and related materiel
  - Items specified by the UN, including items the UN Security Council determines could contribute to the country's WMD programs
  - "Luxury goods"

# Sudan

- CCL items require a BIS license
- EAR99 items may be subject to Part 744 end use/user controls
- License Exceptions
  - Consumer Communications Devices (CCD)
  - Limited availability for TMP, RPL, GOV, GFT, TSU, BAG, AVS
- Favorable licensing policy
  - Telecommunications Infrastructure (case-by-case)
  - Parts and components for the safety of civil aviation/fixed-wing commercial passenger aircraft and the improvement, repair, operation, design, inspection, maintenance, overhaul of railroads (general policy of approval)
  - Items for United Nations humanitarian efforts
- General Policy of Denial
  - Military-related items
  - Many other items on the CCL including certain encryption items

# Syria

- Authorization required for all items subject to the EAR
  - Except food and medicine designated EAR99
- Case-by-case review of items in support of:
  - the Syrian people including for agricultural production, power generation, sanitation and transportation
  - activities of the U.S. Government
  - United Nations operations
- Case-by-case review also applies to:
  - medicine (CCL) and medical devices
  - parts and components intended to ensure the safety of civil aviation and safe operation of commercial passenger aircraft
  - aircraft chartered by the Syrian Government for the transport of Syrian Government officials on official Syrian Government business
  - telecommunications equipment and associated computers, software, and technology
- General policy of denial for most other items





# Occupied Crimea

- Authorization required for export, reexport, or transfer within Crimea of all items subject to the EAR
  - Except food and medicine designated EAR99 and certain communications software
- General Presumption of Denial
  - Case-by-case review for certain medical supplies and replacement parts authorized under OFAC Ukraine-Related General License No. 4



# Russian Energy Sector Sanctions

- Authorization required to export, reexport, or transfer (in-country) certain items for oil or gas exploration or production from deepwater (500 feet), arctic offshore, or shale projects, or if unable to determine whether the items will be used in such projects.
- Applications reviewed under a presumption of denial when the items are for use in exploration or production projects that have the potential to produce oil

# Military Controls

- Authorization required for the export, reexport or transfer (in-country) of certain items on the CCL intended for military end uses in China or military end-uses or military end users in Russia or Venezuela
- A Part 744 knowledge/“is informed” standard applies
- Applications reviewed on a case-by-case basis. Licenses will be denied when it is determined that a proposed export, reexport, or transfer would make a material contribution to the country’s military capabilities and would result in advancing the country’s military activities contrary to the national security interests of the U.S.



# Questions?

Contact the Foreign Policy Division

202-482-4252

[Foreign.Policy@bis.doc.gov](mailto:Foreign.Policy@bis.doc.gov)