

Commerce Requests Comment on Criteria for Identifying Emerging Technologies that Are Essential to U.S. National Security

November 20, 2018

International Trade

On November 19, 2018, the U.S. Commerce Department's Bureau of Industry and Security ("BIS") released an [Advance Notice of Proposed Rulemaking](#) ("ANPRM") requesting public comment on the criteria to identify emerging technologies essential to U.S. national security. The comments will inform the interagency process that was authorized under the Export Control Reform Act of 2018 ("ECRA") to identify and control the export of emerging technologies.

As discussed in our [recent alert](#) regarding the ECRA, Congress authorized BIS to expand and formalize an interagency process for identifying "emerging" and "foundational" technologies that are essential to U.S. national security and warrant control for export. While the ECRA itself did not identify any technologies that would be controlled, the ANPRM provides a list of 14 representative emerging technology categories that BIS will consider for potential controls and seeks comments on the criteria to identify specific technologies within these categories or other technologies that are essential to U.S. national security. Ultimately, the interagency process is expected to result in proposed rules for new Export Control Classification Numbers ("ECCNs") on the Commerce Control List ("CCL").

The ANPRM does not implement any new export control requirements. It also does not address the identification of foundational technologies, which will be addressed in a separate rulemaking process.

This is an important opportunity for industry members to provide input into the interagency process for identifying and controlling emerging technologies. Comments may be submitted through December 19, 2018.

Background

The ECRA authorizes BIS to establish appropriate controls on the export, reexport, and transfer of emerging and foundational technologies. While the ECRA left such technologies undefined, it required that eligible technologies must be essential to U.S. national security and not currently controlled or described as "critical technologies" in the Foreign Investment Risk Review Modernization Act ("FIRREA"), which is a separate law reforming the Committee on Foreign Investment in the United States ("CFIUS"), as described in our [July 25, 2018 alert](#). The technologies that BIS controls as "emerging technologies" will by definition become "critical technologies" for CFIUS purposes. Notably, on November 10, CFIUS implemented certain

mandatory filing requirements through a temporary “Pilot Program” focusing on foreign investments in U.S. businesses involved in “critical technologies.”

According to BIS, the emerging technologies that are essential to national security could include those that have potential applications for conventional weapons, intelligence collection, weapons of mass destruction, or terrorist activities. Such technologies may also provide the United States with a qualitative military or intelligence advantage.

Pursuant to ECRA, BIS must evaluate the following considerations in the process of identifying and establishing controls over both “emerging” and “foundational” technologies:

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

As confirmed in the ANPRM, BIS does not seek to expand jurisdiction over technologies that are not subject to regulation, including qualified “fundamental research”; nor does it intend to alter existing controls on technology already specifically described on the CCL. Any future controls imposed on emerging technologies must, at a minimum, require a license for exports to countries subject to U.S. embargos, including those subject to arms embargos, such as China.

In addition to considering public comments, the interagency process will consider both public and classified information, including information from the Emerging Technology Technical Advisory Committee and CFIUS.

Importantly, the ECRA also authorizes BIS to establish interim controls by informing specific parties that a license is required for the export of particular technology. Such interim licensing requirements could be imposed immediately and without public notice, before the regulations controlling such technologies become effective. BIS is not required to impose a licensing requirement on the export of finished items and associated technology that already incorporate an identified emerging technology.

Topics on Which BIS Seeks Comment

Public comments in response to this ANPRM will help BIS and other agencies identify criteria to assess emerging technologies and may influence the specific emerging technologies selected for control. BIS seeks to update the export control lists without damaging either national security or the ability of U.S. industry to continue leading the international community in cutting-edge advances in emerging fields.

Comments submitted pursuant to the ANPRM may address any of the following seven areas:

1. How to define emerging technology to assist identification of such technology in the future, including treating emerging and foundational technologies as separate types of technology;
2. Criteria to apply to determine whether there are specific emerging technologies within these general categories that are important to U.S. national security;

3. Sources to identify such emerging technologies;
4. Other general technology categories that warrant review to identify emerging technology that are important to U.S. national security;
5. The status of development of these technologies in the United States and other countries;
6. The impact specific emerging technology controls would have on U.S. technological leadership;
7. Any other approaches to the issue of identifying emerging technologies important to U.S. national security, including the stage of development or maturity level of an emerging technology that would warrant consideration for export control.

Categories of Emerging Technologies Under Consideration

BIS seeks public comment about potential criteria for identifying specific emerging technologies within the following categories:

1. Biotechnology, such as:
 - Nanobiology;
 - Synthetic biology;
 - Genomic and genetic engineering;
 - Neurotech.
2. Artificial Intelligence and machine learning technology, such as:
 - Neural networks and deep learning (e.g., brain modelling, time series prediction, classification);
 - Evolution and genetic computation (e.g., genetic algorithms, genetic programming);
 - Reinforcement learning;
 - Computer vision (e.g., object recognition, image understanding);
 - Expert systems (e.g., decision support systems, teaching systems);
 - Speech and audio processing (e.g., speech recognition and production);
 - Natural language processing (e.g., machine translation);
 - Planning (e.g., scheduling, game playing);
 - Audio and video manipulation technologies (e.g., voice cloning, deepfakes);
 - AI cloud technologies; or
 - AI chipsets.
3. Position, Navigation, and Timing (PNT) technology
4. Microprocessor technology, such as:

- Systems-on-Chip (SOC); or
 - Stacked Memory on Chip.
5. Advanced Computer Technology, such as:
- Memory-centric logic.
6. Data-analytics technology, such as:
- Visualization;
 - Automated analysis algorithms; or
 - Context-aware computing
7. Quantum information and sensing technology, such as:
- Quantum computing;
 - Quantum encryption; or
 - Quantum sensing.
8. Logistics technology, such as:
- Mobile electric power;
 - Modeling and simulation;
 - Total asset visibility; or
 - Distribution-based Logistics Systems (DBLS).
9. Additive manufacturing (e.g., 3D printing);
10. Robotics such as:
- Micro-drone and micro-robotic systems;
 - Swarming technology;
 - Self-assembling robots;
 - Molecular robotics;
 - Robot compliers; or
 - Smart Dust.
11. Brain-computer interfaces, such as:
- Neural-controlled interfaces;
 - Mind-machine interfaces;
 - Direct neural interfaces; or
 - Brain-machine interfaces.
12. Hypersonics, such as:
- Flight control algorithms;
 - Propulsion technologies;

International Trade

- Thermal protection systems; or
- Specialized materials (for structures, sensors, etc.).

13. Advanced Materials, such as:

- Adaptive camouflage;
- Functional textiles (e.g., advanced fiber and fabric technology); or
- Biomaterials.

14. Advanced surveillance technologies, such as:

- Faceprint and voiceprint technologies.

* * *

Covington has deep experience advising clients on the legal, policy, and practical dimensions of U.S. trade controls. We will continue to monitor developments in this area, and are well-positioned to assist clients in understanding how these recent announcements may affect their business operations. For companies whose products may include the listed emerging technologies, such as biotechnology, artificial intelligence and robotics, we would be glad to assist with the development of comments in response to the ANPRM and to monitor and advise on the administration's policy with respect to their specific technologies and ensure that their perspectives are taken into account.

If you have any questions concerning the material discussed in this client alert, please contact the following members of our International Trade Controls and Public Policy practices:

<u>Peter Flanagan</u>	+1 202 662 5163	pflanagan@cov.com
<u>Corinne Goldstein</u>	+1 202 662 5534	cgoldstein@cov.com
<u>Peter Lichtenbaum</u>	+1 202 662 5557	plichtenbaum@cov.com
<u>Kimberly Strosnider</u>	+1 202 662 5816	kstrosnider@cov.com
<u>David Addis</u>	+1 202 662 5182	daddis@cov.com
<u>Alan Larson</u>	+1 202 662 5756	al Larson@cov.com
<u>Stephen Rademaker</u>	+1 202 662 5140	srademaker@cov.com
<u>Elena Postnikova</u>	+1 202 662 5785	epostnikova@cov.com
<u>Alexandra Francis</u>	+1 202 662 5917	afrancis@cov.com

This information is not intended as legal advice. Readers should seek specific legal advice before acting with regard to the subjects mentioned herein.

Covington & Burling LLP, an international law firm, provides corporate, litigation and regulatory expertise to enable clients to achieve their goals. This communication is intended to bring relevant developments to our clients and other interested colleagues. Please send an email to unsubscribe@cov.com if you do not wish to receive future emails or electronic alerts.