Before the
Bureau of Industry and Security
U.S. Department of Commerce
Washington, D.C.

In re: Addition of Software Specially Designed to Automate the Analysis of Geospatial Imagery to the Export Control Classification Number 0Y521 Series	BIS–2019–0031 FRN 2019-27649

COMMENTS OF
INTERNET ASSOCIATION

Internet Association (IA)[1] appreciates the opportunity to comment on this interim final rule to amend the Export Administration Regulations (EAR) to impose a license requirement for the export and reexport of software specially designed to automate the analysis of geospatial imagery to all destinations except Canada.

IA represents over 40 of the world's leading internet companies and is the only trade association that exclusively represents leading global internet companies on matters of public policy. IA's mission is to foster innovation, promote economic growth, and empower people through the free and open internet. The internet creates unprecedented benefits for society, and as the voice of the world's leading internet companies, we ensure stakeholders understand these benefits. Our members believe that a free and open internet is essential for individuals' access to information and a competitive economy, and is also an important component of an effective U.S. foreign policy and national security strategy.

IA strongly supports U.S. national security objectives, but, as drafted, this interim final rule covers a range of widely available machine learning applications and imagery with no nexus to national security. Without significant modification and clarification, the interim final rule will have the seemingly unintended consequence of helping foreign innovators outpace U.S. businesses in developing machine learning applications. IA therefore respectfully requests that the Bureau of Industry and Security (BIS) withdraw the rule. Alternatively, in the event that BIS decides to leave the rule in place, the digital industry believes at a minimum that BIS must provide additional specificity to ensure this rule is narrowly tailored and the parameters are clear, particularly regarding the definition of geospatial imagery and point clouds and the applicability of the rule to software falling within current imagery resolution limits. Unduly broad restrictions will harm technological development in the U.S. and will be counterproductive to U.S national security.

Recommendations

> *1. Unilateral restrictions will be ineffective*

IA respectfully suggests that BIS should not impose unilateral controls on the software described in Export Control Classification Number (ECCN) 0D521 No. 1. Similar software is already being developed globally, and continuing to impose a unilateral restriction, even temporarily, will hurt U.S. companies' ability to be competitive in developing geospatial analytics software and related applications, causing damage to the U.S. economy without a corresponding national security benefit. The potential loss of a

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[1] https://www.internetassociation.org/our-members/

domestic geospatial sector will impact other parts of the U.S. economy and has the potential to cost American jobs.

This ECCN controls software that provides machine learning training capabilities that are widely available around the world. Industry, academics, and even governments across the globe are now capable of building the type of software described in this ECCN with publicly available information. Using a combination of open-source software and algorithms coupled with commercially available or freely downloadable satellite imagery would make any of these entities run afoul of this rule.

Finally, imposing a license requirement on this software for all countries other than Canada imposes a significant burden and disincentive for U.S. companies who are developing and using this type of software for humanitarian purposes such as disaster recovery; mapping food deserts and security; and tracking ilegal fishing. If BIS is concerned about the national security implications of this type of software it should, at most, develop end-use controls on the software rather than a sweeping license requirement that does not take end-use into account.

2. *Specific recommendations*

a) "Geospatial imagery" and "point clouds" are not defined in ECCN 0D521 No. 1 or the EAR and can be interpreted in many different ways. If BIS decides to move forward with the rule, it should at the very least adopt an updated definition of "geospatial imagery" and "point clouds" to ensure that the rule doesn't negatively impact U.S. innovation by helping foreign innovators outpace domestic businesses in machine learning functions.

   The digital industry recommends BIS add a definition that clarifies that this rule applies only to imagery, point clouds, and digital surface models captured or created by remote sensing space systems (satellites) or high altitude aircraft. This would help to avoid a broad interpretation of the current language to apply to images taken by aircraft at low altitudes, vehicles at ground level, or even surveillance camera footage of indoor environments.

   Specifically, the new definition should add the following sentence to the definition: "***geospatial imagery is an image of the earth produced by an image sensor from an altitude of greater than 60,000 feet above sea level***." By adding this definition, the final rule would continue to apply to the satellite/high-altitude imagery that appears to be the focus of the rule without inadvertently placing overly-restrictive controls on imagery captured by widely available drone, ground vehicle, or surveillance systems.

b) If BIS includes the updated definition of geospatial imagery over 60,000 feet, the digital industry proposes that BIS further amend subpart 1 of ECCN 0D521 No. 1 to now read: "*Provides a graphical user interface that enables the user to identify objects (e.g., vehicles, houses, etc.) from within geospatial imagery and associated **point clouds** in order to extract positive and negative samples of an object of interest **smaller than 625 cm² (i.e., effectively exceeding a ground sampling distance from geospatial imagery of 25 centimeters).***"

   The interim final rule should not apply to machine learning that does not improve the quality of an image beyond what is already detectable by the human eye in commercially available satellite imagery. Thus, IA proposes limiting the ECCN to machine learning software that would train a Deep Convolutional Neural Network to identify objects by effectively improving the resolution of a commercial satellite image beyond the National Oceanic and Atmospheric Administration's current licensing limitation—a 25 cm ground sampling distance or higher.

c) IA also proposes adding the word "**associated**" before point clouds to clarify that the ECCN does not regulate software that uses Deep Convolutional Neural Networks to identify small objects on point clouds that are not derived from geospatial imagery, such as a robot that uses point clouds to navigate indoors or a self-driving car that uses point clouds to estimate its position.

d) Finally, IA asks that BIS provide additional clarification as to what constitutes an "object" for purposes of ECCN 0D521 No. 1. Specifically, IA proposes that "objects" be limited to countable items with well-defined shapes, characteristic sizes, and identifiable parts. IA further requests that BIS provide additional examples of what the agency considers to be "objects" as well as examples of features that can be identified in geospatial imagery but are not "objects."

In conclusion, as the interim final rule covers a range of widely available machine learning applications and imagery that are not tied to national security, BIS should withdraw the rule. IA strongly believes that a free and open internet, and U.S. technological and economic leadership, play a critical role in supporting U.S. national security and foreign policy objectives. These interests require that the U.S. take a nimble and global approach to internet-related technological development, which weighs heavily against overly restrictive export controls. Alternatively, the rule should be modified and clarified as described above. Without significant modification and clarification, this interim final rule will have the seemingly unintended consequence of helping foreign innovators to outpace U.S. businesses in the development of machine learning algorithms and applications.