



January 10, 2019

U.S. Department of Commerce  
Bureau of Industry and Security  
Regulatory Policy Division  
Room 2099B  
14<sup>th</sup> Street and Pennsylvania Avenue, NW  
Washington, DC 20230

Attention: The Honorable Richard Ashooh, Assistant Secretary for Export Administration  
The Honorable Matthew S. Borman, Deputy Assistant Secretary for Export  
Administration

Re: Advanced Notice of Proposed Rulemaking (“ANPRM”) regarding Review of Controls for  
Certain Emerging Technologies; Docket # 180712626-8840-01; RIN: 0694-AH61

Dear Assistant Secretary Ashooh and Deputy Assistant Secretary Borman,

The GPS Innovation Alliance<sup>1</sup> (“GPSIA”) is an industry association representing manufacturers of user equipment in the United States that receive space-based positioning, navigation, and timing (“PNT”) information transmitted by satellite signals from the United States’ Global Positioning System (“GPS”); from space-based and terrestrial GPS augmentations; from international Global Navigation Satellite Systems (“GNSS”) and from space-based and terrestrial GNSS augmentations. GPSIA members are involved in the research, design, and manufacture of GPS/GNSS user equipment for use in a wide variety of civilian and government applications for transportation, agricultural, construction, scientific, public safety, consumer and other important purposes. GPSIA has a long-standing history of constructive cooperation with the U.S. government in supporting reviews and updates of export control policy, particularly in GPS/GNSS and terrestrial GPS/GNSS augmentations. GPSIA supports BIS efforts to identify and propose appropriate controls, essential to protect U.S. national security, for uncontrolled emerging technologies consistent with the standards test in the Export Control Reform Act of 2018 (ECRA). GPSIA appreciates the opportunity to provide comments on the referenced ANPRM.

Controls on exports of technology are a key component of the effort to protect sensitive U.S. common use (i.e., military-civil sector) technology in order to ensure the national security of the United States as well as the nation’s sustained technological and commercial leadership in global markets. Most technologies with security implications are generally contained in the U.S.

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<sup>1</sup> GPSIA was formed in February 2013 to protect, promote, and enhance the use of the Global Positioning System (GPS) and Global Navigation Satellite System (GNSS) technologies; See <http://www.gpsalliance.org/>. GPSIA predecessor organization was a partner with the U.S. Government to provide support in development of the dual-use export controls for GPS. GPSIA members manufacture equipment for commercial, consumer, and military use.

Commodity Control List (“CCL”) with appropriate levels of control requirements that are also coordinated at the multilateral level under export control regimes with U.S. allied countries. However, as the ANPRM states, certain technologies may not yet be listed on the CCL or controlled multilaterally because they are emerging technologies. As such, they have not yet been evaluated for their national security impacts.

The ANPRM seeks public comment on criteria for identifying emerging technologies that are essential to U.S. national security, for example, because they have potential conventional weapons, intelligence collection, weapons of mass destruction, or terrorist applications or could provide the United States with a qualitative military or intelligence advantage. The difficulty in responding constructively to this notice is that the technology categories listed are overly broad and somewhat generic, and the ANPRM does not specify the nature of the security concerns that are not relevant for each technology category. This renders it difficult to provide insights either in support of, critiquing or suggesting alternate methods of addressing security concerns effectively through export control parameters.

Clearly, emerging, leading edge technologies can in many instances carry with them the threat of exploitation by hostile actors to the security interests of the United States and its allies. Emerging technologies, on the other hand, are essential elements of U.S. technological and commercial market leadership. Maintaining first-to-market advantages allow U.S. industry to define and establish the global marketplace and are one of the foundational elements for maintaining a strong U.S. economy.

Addressing such concerns early in the life-span of a technology or application can be advantageous, as it can establish effective security controls that also allow for safely developing commercial applications and markets before entrenched market interests can potentially place barriers to the effectiveness of such controls. It can help avoid establishing walls that may isolate and protect a particular technology in the near term, but which in the long term, stifle technological growth and innovation and undermine the leadership advantage of the U.S. industry. Falling behind in technological innovation ultimately undermines U.S. national security, as well. To effectively address the question of the impact of emerging technologies on U.S. national security requires an effective and candid dialogue between the national security community of the U.S. Government and the originators of the emerging technologies, who typically come from the private sector, scientific and academic communities.

The experience of the GPS industry in the U.S. can provide an example. More than 25 years ago, when GPS could still be considered an emerging technology – particularly in the civilian and commercial applications arenas – we faced a similar question as to what should be the most effective export controls on this valuable technology with important applications in the military/national arena, and great, largely unforeseen capabilities in the commercial area. At that time, we were fortunate enough to have the opportunity to engage in just such a candid dialogue with the national security and export control community of the U.S. Government. Nobody is better informed or positioned to describe the security threat and concerns posed by any new technology or product than U.S. Government agencies. Likewise, the private sector, scientific and academic communities tend to have a better and more expansive vision as to the full potential of emerging technologies across a much broader range of application areas. Through a

series of candid, open discussions, the GPS companies were able to present and receive information that helped to inform government policy makers, as well as private sector innovators on the full dimensions of GPS technology from a security as well as commercial market perspective, the threats that needed to be addressed, and the market potential that needed to be preserved. The result was an assessment that overcame preconceived assumptions from both sectors, and provided a balanced set of export control parameters that effectively safeguarded the military and national security advantages of GPS while allowing for the future development of GPS technology and the expansion of commercial applications and global markets.

GPSIA notes that the Federal Radionavigation Plan (“FRP”), prepared jointly by the Departments of Defense (DOD), Homeland Security (DHS), and Transportation (DOT), with the assistance of other government agencies, is “the official source of positioning, navigation, and timing (PNT) policy and planning for the Federal Government and published not less than every two years”.<sup>2</sup> The evolution of this FRP successfully documents the benefits to United States national security and economic leadership from a long established, balanced United States Government approach to realization of multi-use technologies.

One of the emerging technologies identified in the ANPRM is "position, navigation and timing" (PNT) technology. GPSIA is profoundly interested in how any new export controls contemplated by the ECRA may affect emerging PNT technology. At this point, however, it is difficult for GPSIA to provide the type of detailed comments requested by BIS in the ANPRM, due to the generic reference made to PNT.

Consistent with the standards for possible new export controls on emerging technologies set forth in section 1758(a)(2)(B) of the Export Control Reform Act and the ANPRM, GPSIA believes that any such new export controls on PNT technology must involve detailed discussions between United States Government officials and representatives of the commercial enterprises engaged in research and development, manufacture and distribution of PNT technologies and related products. Among the factors that need to be fully addressed and considered in those discussions are:

- a. The extent to which such emerging PNT technologies are, or hereafter may become, public information, for example pursuant to the mandate of 10 U.S.C. sec. 2281 addressing the Federal Radionavigation Plan (“FRP”) prepared by the Department of Defense and the Department of Transportation thereunder.
- b. The extent to which members of industry are currently lawfully engaged in PNT technology research and development activities outside of the United States, either through foreign affiliates or through joint development projects with foreign firms, in

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<sup>2</sup> “The FRP is required by the National Defense Authorization Act for Fiscal Year 1998, as published under Title 10 United States Code, Section 2281, paragraph (c)). This 2014 edition of the FRP reflects the policy and planning for present and future federally provided PNT systems covered by common-use PNT systems (i.e., systems used by both civil and military sectors.) Exclusively military systems and policies are covered in the current version of the Chairman, Joint Chiefs of Staff Instruction 6.1.30.01, the DOD Master Positioning, Navigation, and Timing Plan (MPNTP). The FRP contains chapters covering Roles and responsibilities, Policy, representative PNT architecture, as well as appendices covering System Parameters and Descriptions, PNT Information Services, and Geodetic reference Systems and Datums.

order to maintain United States technological leadership in the GPS field.

c. The extent to which certain foreign firms may already have developed or may be leaders in the development of certain PNT technologies, such that the imposition of United States export controls on those technologies would be ineffectual.

d. The extent to which PNT technologies have been, or are being, developed exclusively for civil applications (for example, commercial maritime navigation; civil aviation safety, etc.).

A determination of whether to impose new export controls on emerging PNT technology should also take into consideration existing export controls. For example, GNSS and related products and technologies are already subject to extensive export control requirements, under Category XII of the United States Munitions List and Category 7 of the Commerce Control List. GPSIA believes that the national security objectives of the United States export control program are materially enhanced where the types of products and technologies that are subject to export control requirements are clearly identified, and overlapping or ambiguous standards and specifications are avoided. GPSIA similarly believes that the U.S. Government focus should be on emerging technologies that are developmental core technology directly applicable to conventional weapons and weapons of mass destruction.

Consistent with the highly successful collaborative efforts among the responsible United States Government agencies and the companies that compose the membership of GPSIA, as described in this letter, the GPSIA respectfully requests, and looks forward to participating in, those detailed discussions, in order to assist the United States Government in striking and maintaining the appropriate balance between national security requirements and ensuring the continued enhancement and improvement of GPS and other PNT technologies for the benefit of the United States economy.

Respectfully,

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cc: Mr. Harold W. Martin III, Director, National Coordination Office for Space-Based PNT  
Mr. Kevin M. O'Connell, Office of Space Commerce  
Mr. Jason Y. Kim, Office of Space Commerce