

The U.S. International Traffic in Arms Regulations and the Emerging Personal Spaceflight/Space Tourism Industry

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As is well known in the international space community, the U.S. International Traffic in Arms Regulations (“ITAR”) govern, in broad terms, U.S.-origin (i) spacecraft, (ii) rockets and launch vehicles, and (iii) certain types of propellants, as well as most U.S.-origin technology and technical assistance related to the foregoing.

Application of the ITAR to U.S.-origin hardware and technology developed for the nascent personal spaceflight and space tourism industry, however, is less clear.¹ As this new industry matures, the contours of ITAR control of such hardware and technology will inevitably become clearer.² In the interim, this paper identifies issues regarding applicability of the ITAR to this emerging branch of commercial space, and suggests how the industry can work proactively to help shape applicability of the ITAR to its activities.

I. Scope of the ITAR as Relevant to Space Tourism Activities

Again, as is well known to most in the international space community, the ITAR contains a list of all hardware and related technical data and technical assistance subject to ITAR control, which list is designated the United States Munitions List (“USML”). 22 Code of Federal Regulations (“C.F.R.”) § 121.1.³ The ITAR term for hardware identified on the USML is “defense article,” 22 C.F.R. § 120.6, even if the hardware has no defense application (such as hardware designed, developed, and manufactured solely for commercial or civil space applications).

The following USML categories are pertinent to, or may be pertinent to, private spaceflight/space tourism activities.

¹ This paper addresses only the industry that plans to offer suborbital personal spaceflight and space tourism aboard vehicles specifically designed for such purposes. The paper therefore does not address, for instance, private individual visits to the International Space Station offered via the Russian Soyuz spacecraft.

² This scope of this paper does not include analysis of the United States Federal Aviation Administration regulations governing launch from the United States of vehicles carrying paying passengers into suborbital space. See 14 C.F.R. Chapter III.

³ Virtually all space-related hardware, technology, and software not identified on the USML are controlled under the United States Commerce Department’s Export Administration Regulations (“EAR”) and, specifically, the EAR’s Commodity Control List. Because the EAR is generally less restrictive than the ITAR, and the processing of EAR license applications -- should any license be required -- is generally more expeditious than the processing of applicable ITAR authorizations, this paper addresses only the ITAR and the ITAR export authorization process. However, should any U.S.-origin hardware, technology, or software not fall under ITAR control, analysis of any proposed export under the EAR is essential in order to determine applicable U.S. export requirements.

A. Spacecraft

Category XV of the USML controls:

*⁴(a) Spacecraft . . .

* * *

(e) All specifically designed or modified systems or subsystems, components, parts, accessories, attachments, and associated equipment⁵ for the articles in this category . . . (see also Categories IV and V [of the USML]).

(f) Technical data (as defined in § 120.10 of [the ITAR]⁶) and defense services (as defined § 120.9 of [the ITAR]⁷) directly related to the articles enumerated in paragraphs (a) through (e) of this category, as well as detailed design, development, manufacturing or production data for all spacecraft and specifically designed or modified component for all spacecraft systems. This paragraph includes all technical data, without exception, for all launch support activities (e.g., technical data provided to the launch provider on form, fit, function, mass, electrical, mechanical, dynamic, environmental, telemetry, safety, facility, launch pad access, and launch parameters, as well as interfaces for mating and parameters for launch.) (See § 124.1 for the requirements for technical assistance agreements before defense services may be furnished even when all the information relied upon by the U.S. person in performing the defense service is in the public domain or is otherwise exempt from the licensing requirements of [the ITAR]). Technical data directly related to the manufacture or production of any article enumerated elsewhere in this category that is designated as Significant Military Equipment (SME) shall itself be designated SME. Further, technical data directly related to the manufacture or production of all spacecraft, notwithstanding the nature of the intended end use (e.g., even when the hardware is not SME), is designated SME.

⁴ An asterisk placed before any entry on the USML indicates that the entry is designated Significant Military Equipment (“SME”), which designation generally subjects the item to tighter restrictions under the ITAR than a non-SME item. (Note that all classified USML articles are also SME.)

⁵ “System,” “component,” “part,” “accessories and attachments,” and, indirectly, “associated equipment” are all terms of art defined in 22 C.F.R § 121.8. The ITAR does not define “subsystem.”

⁶ 22 C.F.R. § 120.10(a) defines “technical data,” as relevant to this paper, as “[i]nformation [including software directly related to defense articles], which is required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance or modification of defense articles.”

⁷ 22 C.F.R. § 120.9(1) defines “defense services,” as relevant to this paper, as “[t]he furnishing of assistance (including training) to foreign persons, whether in the United States or abroad in the design, development, engineering, manufacture, production, assembly, testing, repair, maintenance, modification, operation, demilitarization, destruction, processing or use of defense articles.”

B. Launch Vehicles

USML Category IV controls:

*(a) Rockets (including but not limited to meteorological and other sounding rockets) . . . as well as launchers for such [rockets] . . .

*(b) Launch vehicles . . .

(c) Apparatus, devices, and materials for the handling, control, activation, monitoring, detection, protection, discharge, or detonation of the articles in paragraph (a) and (b) of this category. (See § 121.5)⁸

*(d) Missile and space launch vehicle powerplants.

* * *

(h) All specifically designed or modified components, parts, accessories, attachments, and associated equipment for the articles in this category.

(i) Technical data (as defined in § 120.10 of [the ITAR]) and defense services (as defined § 120.9 of [the ITAR]) directly related to defense articles enumerated in paragraphs (a) through (h) of this category. . . . Technical data directly related to the manufacture or production of any defense articles enumerated elsewhere in this category that are designated as Significant Military Equipment (SME) shall itself be designated SME.

C. Propellants

USML Category V, “Explosives and Energetic Materials, Propellant, Incendiary Agents and Their Constituents,” controls particular types of propellants, as well as over 150 substances grouped in broad subcategories of (a) explosives and mixtures thereof, (b) pyrotechnics, fuels and related substances, and mixtures thereof, (c) oxidizers, (d) binders, and mixtures thereof, (e) additives, and (f) precursors. Although it is obviously impractical to list all substances herein, it is important to note that Category V(b)(6) controls “[a]ny propellant containing substances listed in Category V.”

⁸ ITAR § 121.5 provides, as relevant, that:

Category IV includes but is not limited to the following: . . . components specifically designed, modified or configured for items listed in that category . . . and specialized handling equipment, including transporters, cranes and lifts designed to handle articles in paragraphs (a) and (b) of th[e] category for preparation and launch from fixed and mobile sites.

SpaceShipOne and its progeny will reportedly employ a hybrid rocket motor that uses nitrous oxide as an oxidizer and hydroxyl-terminated polybutadiene (“HTPB”) as fuel. Category V(e)(7) controls HTPB when used as a binder, alone or in a mixture, that has “hydroxyl functionality equal to or greater than 2.2 and less than or equal to 2.4, a hydroxyl value of less than 0.77 meq/g, and a viscosity at 30°C of less than 47 poise (CAS 69102-90-5).” Though the HTPB that Scaled Composites uses or intends to use likely does not meet the above standard, the listing of HTPB on the USML illustrates the necessity to analyze Category V to determine whether private spaceflight/space tourism vehicle propellants are controlled under the USML.

D. Additional Restrictions, not Expressly Identified in the ITAR
or on the USML, on the Export of Certain Technical Data

The U.S. State Department's Directorate of Defense Trade Controls (“DDTC”), which promulgates and administers the ITAR, typically imposes additional and more specific restrictions on technical data regarding USML space-related defense articles that may be exported pursuant to a particular DDTC export authorization, through “provisos,” or conditions, that DDTC places on such an authorization. A typical proviso of this type states that: “technical data for release MUST NOT contain detailed design methodology, engineering analysis and manufacturing know-how as defined in 22 CFR 124(c)(4)(i–iii).”⁹ DDTC considers detailed design methodology, engineering analysis and manufacturing know-how regarding space-related defense articles to be America’s “crown jewels.” DDTC generally prohibits release of this type of technical data even to America’s closest allies.

II. Space Tourism Activities Potentially Subject to ITAR Control

A. Introduction

From the plain language of the USML set forth in detail above, it appears that a number of private spaceflight/space tourism activities could potentially be subject to the ITAR. This section of the paper provides a few scenarios to help analyze instances in which ITAR control might attach.

Before examining the following scenarios, it is important to note that if a U.S. person¹⁰ were to (a) design, develop, and manufacture a private spaceflight/space tourism vehicle without any assistance from any foreign person, (b) use only U.S. persons to pilot its vehicles, (c) “launch” its vehicles from the United States, and (d) carry on board only U.S. person space tourists, the ITAR would be inapplicable.

⁹ This restriction is similar, but not identical, to technical data that USML Category XV(f) controls, “detailed design, development, manufacturing or production data.”

¹⁰ A “U.S. person” is, in essence, any U.S. citizen or lawful permanent resident or any entity currently authorized to do business under the law of a state of the United States. 22 C.F.R. § 120.15. A “foreign person” is, in essence, any person or entity that is not a U.S. person. 22 C.F.R. § 120.16.

Conversely, if a foreign person were to design, develop, and manufacture a private spaceflight/space tourism vehicle (a) without any assistance from any U.S. person and (b) without incorporation into the vehicle any U.S.-origin parts, components, and/or systems, and were to “launch” its vehicle outside of the United States, the ITAR would be equally inapplicable.

However, outside of those narrow and opposite scenarios, it is imperative for a company offering or contemplating offering a private spaceflight/space tourism activities to analyze potential applicability of the ITAR.

B. The Private Spaceflight/Space Tourism Vehicle

The leading private spaceflight/space tourism vehicle (or at least the vehicle about which the most information is publicly known), SpaceShipOne and its progeny, is projected to reach an altitude of over 360,000 feet (approximately 68 miles).¹¹ On the face of the USML, there appears to be little doubt that such vehicles are “spacecraft.” Because the objective of all private spaceflight/space tourism companies presently offering future private spaceflight/space tourism activities is to provide a “space” experience, it seems unlikely that any such companies will design and fly a vehicle that will not reach a similar altitude.

Scaled Composites L.L.C. of the U.S. has reportedly obtained a least one export authorization from DDTC to date to permit Scaled Composites to collaborate with Virgin Galactic of the U.K. in connection with SpaceShipTwo. Although the terms of the authorization are not publicly available, the fact that Scaled Composites sought and obtained DDTC authorization tends to confirm that part or all of U.S.-designed and -developed private spaceflight/space tourism vehicles are presently ITAR-controlled.

C. Use of Foreign Persons to Pilot U.S. Private Spaceflight/Space Tourism Vehicles

The ITAR defines “export” to include “[d]isclosing (including oral or visual disclosure) or transferring technical data to a foreign person, whether in the United States or abroad.” 22 C.F.R. § 120.17(a)(4). Generally speaking, it would seem difficult to train a person to fly a private spaceflight/space tourism vehicle and thereafter fly the vehicle without disclosing or transferring technical data regarding the vehicle. Promoters of private spaceflight/space tourism aboard vehicles that are U.S.-origin -- or contain U.S. parts, components, and/or systems -- would therefore be wise to consider DDTC authorization that might be required before planning to have foreign persons fly the vehicle.

¹¹ The United States does not officially identify at what altitude above the earth’s surface “space” begins but NASA, for instance, awards astronaut status to any person who flies above 50 miles in altitude above the earth’s surface. www.liftoff.msfc.nasa.gov/academy/space/boundary.html. The Fédération Aéronautique Internationale, on the other hand, defines space as beginning at 100 kilometers, or approximately 62 miles. www.fai.org/astronautics/100km.asp. The projected maximum altitude of SpaceShipOne and its progeny is, in any case, higher than either space boundary.

D. “Launch” of a Private Spaceflight/Space Tourism Vehicle

The act of launching a launch vehicle into space does not constitute an export.¹² 22 C.F.R. § 120.17(a)(6). However, transferring a U.S.-origin private spaceflight/space tourism vehicle out of the United States for launch outside of the United States would be an export. Sweden reportedly is interested in developing a spaceport for space tourism, and Virgin Galactic is apparently interested in possibly offering space tourism flights from such a spaceport. Prior to transferring a U.S. private spaceflight/space tourism vehicle out of the United States, the ITAR would require the owner of the vehicle to obtain DDTC authorization prior to the transfer.¹³

E. Foreign Person Passengers Flying Aboard Private Spaceflight/Space Tourism Vehicles

In order to determine whether simply flying aboard a private spaceflight/space tourism vehicle as a passenger would involve any ITAR-controlled activity, further details will be needed regarding what technical data regarding the vehicle and launch of the vehicle might be visually disclosed to passengers and/or what technical data, if any, would be provided to passengers regarding the vehicle and/or its launch. However, mere flight aboard any such vehicle as a passenger appears to be the least likely private spaceflight/space tourism activity to be ITAR-controlled.

III. Implications of ITAR Control

A. DDTC

The most significant impact of ITAR control of some or all private spaceflight/space tourism activities on the nascent industry would delay. Secondly,

¹² There appears little doubt that the methods proposed to date to project a private spaceflight/space tourism vehicle into space constitute a “launch” (the best known, again, being the method used to project SpaceShipOne and its progeny into space, which involves “launch” from the ground under the wing of a turbojet aircraft, and then “launch” from the aircraft through release from the aircraft at approximately 50,000 feet and use of the vehicle’s hybrid rocket motor to reach space). However, because the ITAR broadly excludes from the definition of “export” launches of launch vehicles and payloads into space and, if anything, the method of projecting a private spaceflight/space tourism vehicle into space would appear to be less than a “launch,” launches of private spaceflight/space tourism vehicles in and of themselves are unlikely to require DDTC authorization. At the same time, because horizontal flight under the wing of the aircraft is involved prior to “launch” into space, were the aircraft with the private spaceflight/space tourism vehicle to enter the airspace of a country different from the country (Sweden, for instance) from which the aircraft took off, an export under the ITAR could occur.

¹³ In fact, DDTC authorization could be required prior to physical transfer, as an export is also defined as transferring to a foreign person “registration, control, or ownership” of any “aircraft . . . or satellite”. 22 C.F.R. § 120.17(a)(2). Private spaceflight/space tourism vehicles as proposed to date clearly will not be satellites (with the exception, perhaps, of the planned Bigelow Aerospace, Inc. space habitats – which are different from the private spaceflight/space tourism vehicles that are the subject of this paper). But, as discussed below, the vehicles could ultimately be classified as some form of “spaceplane.” A U.S. owner of a private spaceflight/space tourism vehicle would therefore be wise to determine whether DDTC would interpret this part of the definition of export to cover private spaceflight/space tourism vehicles -- prior to transferring registration, control, or ownership of the vehicle to a foreign person.

there would be the potential inability to furnish certain technical data to foreign persons working in the U.S. private spaceflight/space tourism industry (or at least significant hurdles in being able to do so). Also, ITAR control of parts, components, and/or systems incorporated into a non-U.S. private spaceflight/space tourism vehicle would subject a non-U.S. vehicle to DDTC's requirement for authorization prior to transferring such vehicle (a) from the country of manufacture to any other country or (b) to another party in the manufacturer's country.

1. DDTC Licensing

DDTC issues two primary types of authorizations under the ITAR: (a) licenses, which generally permit the simple one-way export of a defense article and/or technical data, and (b) approved agreements, likely "technical assistance agreements," which permits technical interchanges between the parties to the agreement.¹⁴ The ITAR does contain limited exemptions, which permit export without prior DDTC authorization. However, most space-related exports subject to the ITAR require prior DDTC authorization.

Although the DDTC authorization process has recently improved notably, the process of obtaining a license or approval of an agreement for Category IV and XV items and related technical data and defense services is time-consuming and can have unpredictable results.

DDTC presently approves well-prepared technical assistance agreements for the exchange of Category IV and XV technical data and the furnishing of Category IV and XV defense services in approximately two to three months. DDTC is presently approving well-prepared license applications for Category IV and XV articles and/or technical data in less than one month. However, in 2006, when DDTC was focused on reducing its backlog of Category IV and XV license applications and proposed technical assistance agreements, approval of technical assistance agreements was taking six months or more. A loss of, or change in, personnel on DDTC's Missiles and Space Team, which processes Category IV and XV license applications and proposed technical assistance agreements, could lead to greatly increased processing times again.

2. DDTC Authorization of Collaboration Between U.S. and Foreign Persons in the Design, Development, Manufacture, and Testing of Private Spaceflight/Space Tourism Vehicles

If a foreign person works for or with a U.S. person on the design, development, manufacture, production, or testing of a Category IV and/or XV article, the ITAR requires the U.S. person to obtain appropriate prior DDTC authorization to cover that foreign person's work. Similarly, once a Category IV and/or XV article is in production, the ITAR would require prior DDTC authorization before any foreign person could be

¹⁴ DDTC also issues "reexport authorizations" to U.S. or foreign persons. Significantly, a reexport authorization is the only authorization that a foreign person can request directly from DDTC.

involved in the manufacture, operation, use, modification, and/or maintenance of the article.

DDTC authorization would also be required for collaboration between a U.S. company and a foreign company regarding a Category IV and/or XV article, such as the authorization that Scaled Composites obtained to cover the communication of technical data and the furnishing of defense services to Virgin Galactic. This requirement for DDTC authorization will, obviously, increase the difficulty of such collaboration.¹⁵

3. Foreign-Manufactured Private Spaceflight/Space Tourism Vehicles that Contain U.S.-Origin Parts, Components, and/or Systems

If a private spaceflight/space tourism vehicle manufactured wholly outside of the United States, with no assistance from any U.S. person, were to contain any ITAR-controlled part, component, or system, the manufacturer of such a vehicle would be required to obtain DDTC authorization, in the form of a reexport authorization, before transferring the vehicle (a) from the country of manufacture to any other country or (b) to another party in the manufacturer's country.

B. United States Department of Defense Monitoring

In approving any authorization, DDTC may provide the U.S. Department of Defense Defense Technology Security Administration ("DTSA") the right to monitor meetings and teleconferences where there will be any technical interchange that involves one or more U.S. persons furnishing defense services to foreign persons, including within the U.S. In addition, DDTC may provide DTSA the right to "pre-review" documents containing technical data prior to export – even if a DDTC authorization is in place. Obviously if either requirement were to be imposed with respect to a foreign national employee of a U.S. company, it would make using a foreign employee virtually unworkable. Collaboration between a U.S. and foreign company would likely be workable, but be made far more difficult.

1. Background

The United States Congress has mandated that the United States Department of Defense monitor launches of "satellites or related items" outside the United States. The

¹⁵ Though it has far less impact than the foregoing, U.S. manufacturers of defense articles must register with DDTC even if the manufacturer does not export. 22 C.F.R. § 122.1(a). In addition, any U.S. person who wishes to export defense articles, technical data, and/or defense services must register with DDTC, with limited exceptions. 22 C.F.R. § 122.1(b). In fact, a U.S. person cannot obtain a DDTC license or approved agreement without being registered. Similarly having far less of an impact, entities registered with DDTC are required to maintain records concerning the manufacture, acquisition, and disposition of defense articles, technical data and defense services, including records of exports made pursuant to license, approved agreement, or exemption. These records must be maintained for five years, available for inspection and copying by DDTC or other U.S. Government agencies. 22 C.F.R. § 122.5.

Defense Department has delegated this responsibility to DTSA, specifically DTSA's Space Directorate ("DTSA/SD").

Until very recently DTSA, with the concurrence of DDTC, interpreted its congressional mandate expansively. DTSA monitored activities involving commercial communications satellites that were unrelated to launches of such satellites and related items. For instance, DTSA has monitored "technical interchanges" such as meetings, telephone conferences, and other activities undertaken in connection with legal disputes involving commercial communications satellites, including depositions and hearings. A typical condition DDTC imposed upon approval of a technical assistance agreement relating to a satellite dispute was:

All proceedings MUST have a US DOD monitor present unless exempted by the DOD/DTSA/SD. Monitors MUST be granted full access to ALL documentation that will be provided during the arbitration. The applicant MUST notify DTSA/SD in writing (703-325-3174/1701, FAX – 7422), 40 days in advance of overseas proceedings in support of this agreement, 15 days when meeting are held in the continental US, and five days prior to telecons.

The applicant for any DDTC authorization that contains this monitoring requirement is also required to reimburse DTSA for all costs (hourly fees and expenses) incurred in monitoring.

Recently DTSA has begun interpreting its congressional mandate more narrowly. DTSA presently interprets that mandate as related primarily to launches and, secondarily to particularly sensitive activities where monitoring is warranted in DTSA's view.

Therefore, space tourism operators most likely will not have a monitoring requirement imposed on their activities at present, even for "launches" of space tourism vehicles outside of the U.S. However, private spaceflight/space tourism operators should be aware that DTSA monitoring policy is subject to change depending upon individuals at DTSA who interpret DTSA's mandate. Should there be a change in current DTSA personnel, there could well be a swing back to more expansive monitoring.

2. DTSA Document Review

DDTC also requires (with some exceptions) that prior to export of space-related technical data, even after approval of a technical assistance agreement, exporters provide to DTSA for review all documents containing technical data that the exporter intends to export.

Unlike the monitoring requirement, the private spaceflight/space tourism industry may well see this document review requirement in DDTC licenses and approvals of agreements. The requirement is not particularly onerous, particularly once a company becomes accustomed to using DTSA's web-based system for document review.

However, DTSA reserves the right to take up to ten days to review a document submitted for review and approval. So if the document review requirement is imposed, in an emergency a U.S. private spaceflight/space tourism company would not be able to furnish a document immediately to a foreign person, even an employee, under an approved agreement. Also, needless to say, a U.S. private spaceflight/space tourism company cannot expect DTSA to review quickly a submission of hundreds of documents.

IV. Mechanisms for Determining Whether Private Spaceflight/Space Tourism Hardware, Technical Data, and/or Defense Services are Controlled Under the ITAR

DDTC has a process, known as a “commodity jurisdiction procedure,” to provide any person a determination whether an article, technical data, or defense service is controlled under the ITAR. 22 C.F.R. § 120.4(a) states that:

The commodity jurisdiction procedure is used with the U.S. Government if doubt exists as to whether an article or service is covered by the U.S. Munitions List.

If doubt does not exist regarding whether an article, technical data, or defense service is controlled under the ITAR, a person can make its own determination as to whether the article, technical data, or defense service is ITAR-controlled. However, it is highly recommended that no one make such a determination without expert ITAR advice. Heavy civil fines can be levied for a mistaken determination and criminal charges can be brought for a knowing violation of the ITAR. In addition, persons should be aware that DDTC has stated, in fining a major aerospace company with respect to a jurisdictional determination with which DDTC disagreed, that the commodity jurisdiction process is the only official mechanism by which questions regarding ITAR jurisdiction may be addressed. *In the Matter of The Boeing Company* (United States Department of State Bureau of Political-Military Affairs Mar. 28, 2006) (consent agreement).

DDTC’s Office of Defense Trade Control Policy (“ODTCP”) issues commodity jurisdiction determinations.¹⁶ In contrast to a number of years ago, ODTCP presently takes a practical, rather than dogmatic, approach to requests for commodity jurisdiction determinations. The commodity jurisdiction process, however, like the DDTC licensing process remains a lengthy process. Obtaining a determination can take six months or more with difficult requests.

One problem that ODTCP faces with respect to commodity jurisdiction determinations regarding private spaceflight/space tourism activities is that the ITAR commodity jurisdiction process is grounded in a military-versus-civil use analysis.

¹⁶ A person need not be registered with DDTC in order to submit a commodity jurisdiction request, 22 C.F.R. § 120.4(b), and therefore need not be a U.S. person. Should DDTC respond to a commodity jurisdiction request that an article, technical data, or defense service is ITAR-controlled, the person would then be required to register with DDTC unless one or more narrow exceptions to registration applies.

Because spacecraft, for instance, are controlled regardless of whether a particular spacecraft is designed and developed for civil or commercial (as opposed to military) applications, ODTCP may need to develop a new paradigm to determine whether components of private spaceflight/space tourism vehicles, for instance, are ITAR-controlled.

22 C.F.R. § 120.3, “Policy on designating and determining defense articles and defense services,” provides, for example, that:

An article or service may be designated or determined in the future to be a defense article . . . or defense service . . . if it:

- (a) Is specifically designed, developed, configured, adapted, or modified for a military application, and
 - (i) Does not have predominant civil applications; and
 - (ii) Does not have performance equivalent (defined by form, fit and function) to those of an article or services used for civil applications.

22 C.F.R. § 120.4, “Commodity Jurisdiction,” further provides, in subsection (d)(1), that “[a] determination that an article or service does not have predominant civil applications shall be made by the Department of State . . . on a case-by-case basis, taking into account:

- (i) The number, variety and predominance of civil applications;
- (ii) The nature, function and capability of the civil applications; and
- (iii) The nature, function and capability of the military applications.

This procedure works well with, for instance, a former defense article such as the internet. The United States Department of Defense originally specifically designed and developed the internet for military applications. However, today civil applications clearly predominate over military applications. This standard does not work with spacecraft though. Commercial satellites, as an example, are controlled on the USML even if every component in the satellite has predominant commercial applications.

One possible solution to this commodity jurisdiction conundrum is for ODTCP to classify private spaceflight/space tourism vehicles as suborbital “spaceplanes,” not subject to Category XV of the USML. This would require the Commerce Department to create a new category on the EAR Commodity Control List for such items.¹⁷

¹⁷ One caveat is that the United States Congress, which legislated ITAR control of spacecraft, including commercial satellites, for instance, has a strong interest in maintaining ITAR

In any case, as set forth above, ODTCP makes determinations on a case-by-case basis. ODTCP cannot make any commodity jurisdiction determination regarding private spaceflight/space tourism vehicles and related technical data and/or defense services unless and until a developer of such a vehicle provides ODTCP with a detailed written request for a commodity jurisdiction determination. ODTCP is open to reviewing such requests, but to date has reportedly only had informal conversations with such developers who were unable as yet to provide specific written details regarding their products.

Finally, a commodity jurisdiction determination is a confidential response to the requester and is not published. DDTC's policy of maintaining confidentiality of its determinations is a two-edged sword for the private spaceflight/space tourism industry. On one hand, a developer of a private spaceflight/space tourism vehicle that receives a commodity jurisdiction determination that its vehicle, or components of its vehicle, are not ITAR-controlled would gain an advantage over its competitors. However, confidentiality of the determinations makes incremental definition of the contours of ITAR control over the industry more difficult to discern. That hurdle could be overcome if the industry were to share voluntarily commodity jurisdiction determinations. However, that would likely require a similar paradigm shift in industry.

V. Conclusion

The private spacecraft/space tourism industry, particularly in the U.S., has an opportunity to influence whether and/or to what extent the ITAR will apply to private spaceflight/space tourism activities. The industry is young and ODTCP has a relatively open mind about applicability of the ITAR to private spaceflight/space tourism activities. Ignoring the question of ITAR applicability to some or all of the industry's activities will likely lead to a more, rather than less, expansive interpretation of the ITAR's applicability. A more expansive interpretation, in turn, may well hamper the industry's growth.

control over spacecraft, rockets, and related items. Therefore, an ODTCP determination is always subject to legislative reversal.