August 3, 2015

Ms. Hillary Hess
Director
Regulatory Policy Division
Room 2099B
Bureau of Industry and Security
U.S. Department of Commerce
14th Street & Pennsylvania Ave., N.W.
Washington, D.C. 20230

Mr. Ed Peartree
Director
Office of Defense Trade Controls Policy
U.S. Department of State
2401 E Street, N.W.
Washington, D.C. 20037

Re: Revisions to Definitions in the Export Administration Regulations (*Federal Register* Notice of June 3, 2015; RIN 0694-AG32) and International Traffic in Arms: Revisions to Definitions of Defense Services, Technical Data, and Public Domain; Definition of Product of Fundamental Research; Electronic Transmission and Storage of Technical Data; and Related Definitions (*Federal Register* Notice of June 3, 2015; RIN 1400-AD70)

Dear Ms. Hess and Mr. Peartree:

The Semiconductor Industry Association ("SIA") is the premier trade association representing the U.S. semiconductor industry. Founded in 1977 by five microelectronics pioneers, SIA unites over 60 companies that account for nearly 90 percent of the semiconductor production of this country. The semiconductor industry accounts for a sizeable portion of U.S. exports.

SIA is pleased to submit the following public comments in response to the request for public comments issued by the Commerce Department's Bureau of Industry and Security ("BIS") on proposed revisions to definitions in the Export Administration Regulations ("EAR"),[1] and the request for public comments issued by the State Department's Directorate of Defense

[1] Revisions to Definitions in the Export Administration Regulations, 80 Fed. Reg. 31,505 (Jun. 3, 2015) ("EAR Harmonization Definitions").

Trade Controls ("DDTC") on proposed new definitions and proposed revisions to definitions in the International Traffic in Arms Regulations ("ITAR").[2]

I. Introduction

A goal of any regulatory regime should be to streamline and clarify regulations to the greatest extent possible while providing appropriate rules for behavior. The President's Export Control Initiative is an effort to advance that goal. In many respects the proposed definitions put forward by BIS and DDTC successfully clarify and streamline EAR and ITAR controls so as to facilitate understanding and accommodate the realities of technology and the international market.

In many important respects, however, the proposals move in the opposite direction. The straightforward and common approach to drafting regulations is to define terms consistent with their plain and common sense meaning and then apply clear rules to the defined terms.[3] Many of the proposed definitions depart widely from the normal meaning of terms and encompass a variety of operational requirements. The distortion of definitions and conflation of definitions and rules underlie many of SIA's reservations about the proposed rulemakings.

II. Proposed Definitions Appearing in Both the ITAR and EAR

A. Export (EAR §734.13; ITAR §120.17)

i. SIA Recommendation #1

The definition of "export" in EAR § 772.1 is a generally accurate definition that comports with the common sense meaning of the word and has stood the test of time. SIA believes it would be a mistake to eliminate this definition.

The ITAR definition of "export" should be aligned with the EAR definition of that term in EAR § 772.1.

> **Recommendation #1**: **BIS should retain the current definition of "export" in EAR § 772.1, and DDTC should add the following directly after ITAR § 120.17(a)(1): "(2)** ***The following activities are subject to these regulations in the same manner and with the same effect as exports: { then renumber (2) through (7) as (i) through (vii)}."***[4]

[2] International Traffic in Arms: Revisions to Definitions of Defense Services, Technical Data, and Public Domain; Definition of Product of Fundamental Research; Electronic Transmission and Storage of Technical Data; and Related Definitions, 80 Fed Reg. 31525 (Jun. 3, 2015) ("ITAR Harmonization Definitions").

[3] *See* "Drafting Legal Documents," found at http://www.archives.gov/federal-register/write/legal-docs/defintions.html ("Do not define in a way that conflicts with ordinary or accepted usage. . . . Do not include a substantive rule within a definition.")

[4] SIA would support the definition of "export" in EAR § 772.1 to parallel the definition proposed in EAR § 734.13(a)(1).

ii. SIA Recommendation #2

The proposed regulation would create a new "definition" in EAR § 734.13(a). EAR **§** 734 sets forth the scope of the regulations and, among other things, "provides rules to determine whether items and articles are subject to the EAR." The new "export" definitions set forth a series of rules in separate subsections that purport to define "exports," "deemed exports," certain "transfers," "releases," other "transfers," and in the corresponding section of the ITAR, "making certain items available via a publicly available network." There are several drawbacks to this approach to definitions.

Any regulatory scheme for exports should include "export" in the section setting forth relevant definitions. It is inherently confusing to include in the definition of "export" items that are not in fact exports, such as "deemed exports." "Deemed export" should be defined in EAR § 772.1 and the rules governing deemed exports should be set forth explicitly in EAR § 734. This is a simpler and clearer way to proceed.

Recommendation #2: "**Deemed export" should be defined in EAR § 772.1 and the rules governing deemed exports should be set forth explicitly in EAR § 734.**

iii. SIA Recommendation #3

Failing to make a clear distinction between definitions and regulatory rules causes ambiguities. A major problem in this regard is the regulatory treatment governing the provision of theoretical access to controlled technology in the absence of actual access to that technology.

For example, if a building contains controlled items and a foreign national is given access to the building so as to be able to visually inspect the contents of the building, but the foreign national never in fact goes into the building for an inspection, did an export occur? More relevant to the semiconductor industry, if a foreign national information technology (IT) expert is given access to a database that contains controlled information, but the foreign national IT expert never in fact accesses the controlled information, that is, never views the controlled information, never downloads it and never comes in contact with it in any way, did an export occur?

Under the proposed definition of "export," providing mere access would not appear to be a controlled event. "Release" is defined as inspections that "reveal" technology or source code to a foreign national or actions that constitute "oral or written exchanges" of technology with a foreign national.[5] BIS explains that visual inspection "must actually reveal controlled technology or source code," noting that this is a change from the more theoretical standard of the current regulations.[6] Similarly, "exchanges" contemplate a give and take between the provider and the recipient. Mere theoretical access to technology or software does not rise to the level of an exchange of technology or software.

[5] EAR Harmonization Definitions at 31,516.

[6] Id. at 31,508.

At the same time, DDTC, and to a lesser extent BIS, indicate in the accompanying commentary, consistent with other actions in the regulations, that providing mere theoretical access to controlled items is a controlled activity. This is made explicit in connection with making technical data available via a public network such as the internet or the cloud.[7] It is more opaque with respect to providing theoretical access to technical data or software within a private network to a particular foreign national.

Clarity on this point is important. Accordingly, BIS and DDTC should explicitly indicate whether providing theoretical access to technology, technical data or software to a foreign national constitutes an "export" in the absence of the foreign national ever actually accessing the technology, technical data or software.

<u>Recommendation #3</u>: BIS and DDTC should explicitly indicate whether providing theoretical access to technology, technical data or software to a foreign national constitutes an "export" in the absence of the foreign national ever actually accessing the technology, technical data or software.

iv. <u>SIA Recommendation #4</u>

Paragraph (a)(6) of the revised ITAR definition of "export" includes the phrase "regardless of whether such data has been or will be transferred." That phrase does not appear in the EAR definition of "export" and should be removed. Only actual transfers of controlled technical data should constitute an export.

<u>Recommendation #4</u>: DDTC should remove the phrase "regardless of whether such data has been or will be transferred" from ITAR § 120.17(a)(6).

v. <u>SIA Recommendation #5</u>

If providing theoretical access to technology, technical data or software to a foreign national constitutes an "export" in the absence of the foreign national ever actually accessing the technology, technical data or software, then it would be important to distinguish between granting access via a public network (where the probability of actual access by a foreign national is substantial) and granting access via a secure, private network or database (where the probability of actual access by a foreign national is much less). New technologies make it possible to effectively monitor and detect such access.

SIA urges that any control placed on mere theoretical access include an explicit exception for access granted to company employees whose access is limited to technology, software or technical data housed within a secure company network. The exception would best be enumerated via a note to the "export" definition clarifying that providing theoretical access to a foreign national within a secure, private network is not an 'export."

<u>Recommendation #5</u>: If BIS and DDTC determine that providing theoretical access to technology, technical data or software to a foreign national constitutes an

[7] ITAR Harmonization Definitions at 31,529.

"export" in the absence of that foreign national ever actually accessing the technology, technical data or software , then BIS and DDTC should include a note along the following lines in the definition of "export":

> **Note: Making technology, technical data or software available to a foreign national via a private, secure network or database does not constitute an export or deemed export unless (i) the foreign national in fact accesses, downloads or otherwise reads or obtains possession of the technical data or (ii) the technical data is made available with the knowledge that the foreign national will access, download or otherwise read or obtain possession of the technical data.**

vi. SIA Recommendation #6

BIS should publish a definition of "permanent residency" that is sufficiently broad to cover the variety of immigration statuses worldwide equating to U.S. lawful permanent residency ("green card") status. Alternatively, BIS should change "permanent residency" to "legal residency" throughout the EAR.

Acquiring citizenship data for foreign national employees has become difficult due to the mobile nature of the modern workforce. In contrast, the United States and European countries, many Asian, African and Middle Eastern countries may not grant legal status to foreign nationals who have permanently settled in their country. Establishing residency in a third country without legal status equivalent to a U.S. 'green card' now is increasingly common.

In addition, requiring companies to collect proof of each foreign national employee's nationality and permanent residency status may conflict with international privacy and anti-discrimination laws.

Immigration status often is not an accurate indicator of personal allegiances or national security sensitivity, and regulating deemed exports based on citizenship and permanent residency does not preclude willful violations of the EAR by individuals. Those foreign nationals who have chosen to emigrate and settle permanently in new countries with accordant long-term visa status should be afforded greater rights under the EAR with a broad, clear definition of "permanent" or "legal" residency beyond the confines of U.S. green card equivalency. By drawing a bright line between legal residency and temporary worker visa status, BIS and exporters would have fewer deemed export licenses to process, resulting in faster hiring of skilled workers and more efficient implementation of deemed export/reexport controls worldwide.

Recommendation #6: BIS either should publish a definition of "permanent residency" that is sufficient to cover the variety of immigration statuses worldwide which equate to U.S. permanent resident/green card holder status, or change "permanent residency" to "legal residency" throughout the EAR.

B. Technology (EAR § 772.1), Technical Data (ITAR §120.10), Required (EAR § 772.1; ITAR § 120.46) and Peculiarly Responsible (EAR § 772.1; ITAR § 120.46)

i. SIA Recommendation #7

DDTC has clarified the definition of "technical data" in the ITAR by adding a definition of "required."[8] "Required," as applied to technical data, is said to mean "only that portion of technical data that is peculiarly responsible for achieving or exceeding the controlled performance levels, characteristics or functions."

BIS should similarly clarify the EAR definition of "technology," in order to give meaning to the first phrase in the EAR definition of "required" and align the two regulatory regimes on this point.

Recommendation #7: BIS should replace "necessary" with "required" in the EAR definition of "technology."

ii. SIA Recommendation #8

BIS provides a definition of "peculiarly responsible" that offers a "catch and release" construct similar to that employed for the term "specially designed."[9]

The ITAR does not define the words "peculiarly responsible," presumably leaving the definition to the plain meaning of the words, but adds a note that technical data is "peculiarly responsible for achieving or exceeding the controlled performance levels, characteristics or functions" if it is otherwise used for the activities enumerated in ITAR § 120.10(a)(1).[10]

This additional construct for particularly responsible is a welcome change to the ITAR. Application of the proposed definition of "required" and the enhanced meaning of "peculiarly responsible" can be expected to have a substantive and limiting impact on the scope of items subject to the EAR and technical data subject to the ITAR.

The ITAR definition of "required" should apply to software as well as technical data, as is the case in the EAR. If it is used in the regulations in relation to software, the word "required" should have the same meaning as it does for technical data.

Recommendation #8: The ITAR definition of "required" should apply to software as well as technical data.

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[8] ITAR Harmonization Definitions at 31,534.

[9] EAR Harmonization Definitions at 31,519.

[10] ITAR Harmonization Definitions at 31,536.

iii. SIA Recommendation #9

The Note to paragraph (a)(1) of the EAR definition of "technology" is overly broad and should be clarified.

> **Recommendation #9: Note 1 to the EAR definition of "technology" should be modified as follows: "The modification of an existing item creates a new item, and technology *required* for the modification is ~~technical data for the development of~~ *subject to the same controls as* the new item."**

iv. SIA Comment

The proposed Note 1 to paragraph (a) under the definition of "required" in both the EAR and ITAR provides an essential confirmation of the application of the "peculiarly responsible" standard. Note 1 establishes that the peculiarly responsible standard can be applied to an item or defense article even if they have no specific technical parameters to describe the scope of what is controlled. In these cases, the peculiarly responsible standard will apply to the natural or plain meaning of the characteristics or functionality of the item or defense article, unless the characteristics or functionality are otherwise specified.

Application of the peculiarly responsible standard is illustrated with the example of a bomber, a defense article that is listed on the ITAR without any controlled technical parameters. According to Note 1, any technical data "peculiar to making" an aircraft a bomber would qualify as technical data "required" for a bomber and hence subject to the ITAR. The formulation "peculiar to the making" constitutes a useful elaboration of the peculiarly responsible standard.

To illustrate further, technical data for the targeting of a bomb sight in a bomber should qualify as technical data "peculiarly responsible" for the characteristics or functions of a bomber. In contrast, technical data for an elaborate cup holder for a bomber cockpit, that is, technical data unique to a bomber, would not qualify as ITAR technical data because the technical data for the cup holder is not peculiar to making an aircraft a bomber or peculiarly responsible for the controlled characteristics or functions of a bomber.

This Note 1 and its accompanying example are critical to industry's understanding of and reliance on the peculiarly responsible standard. It is fully consistent with the common sense meaning of "peculiarly responsible." It also reflects the long-standing meaning of the standard that has been applied by CoCom allies and currently applied by Wassenaar countries.

Lastly, Note 1 confirms that the "peculiarly responsible" standard is additive to the "catch and release" model of Note 3 to ITAR §120.46 and EAR § 772.1

v. SIA Recommendation #10

Note 2 to the paragraph (a) of the proposed ITAR definition of "required" and Note 2 to the proposed revised EAR definition of "required" both explain that the jurisdictional status of unclassified technical data or technology is the same as the jurisdictional status of the defense

article or item subject to the EAR to which it is directly related.[11] BIS and DDTC should clarify the meaning of this note by providing a clear and succinct definition of "directly related." That definition of "directly related" should adhere closely to the new definition of "required" and thereby employ the new "peculiarly responsible" standard.

> **<u>Recommendation #10</u>: BIS and DDTC should clarify the meaning of Note 2 to the proposed revised EAR definition of "required" and Note 2 to paragraph (a) of the proposed ITAR definition of "required" by providing a clear and succinct definition of "directly related" that adheres closely to the new definition of "required" and thereby employs the new "peculiarly responsible" standard.**

vi. <u>SIA Recommendation #11</u>

The introductory language of the EAR definition of "peculiarly responsible" references an "item," while the subparagraph 3 of that definition references "information." Given that the definition of "peculiarly responsible" may apply to hardware, software or technology, the use of "item" is more appropriate. BIS should replace "information" with "item" in subparagraph 3 of the "peculiarly responsible" definition.

> **<u>Recommendation #11</u>: BIS should replace "information" with "item" in subparagraph 3 of the "peculiarly responsible" definition**.

vii. <u>SIA Recommendation #12</u>

Subparagraph 3 of the proposed definition of "peculiarly responsible" within the EAR and ITAR should apply to both hardware and software, and should utilize an alternative standard to "identical" for software.[12] An "identical" requirement for software is too confining. Instead, when dealing with tens, hundreds, or thousands of lines of software code, the standard employed in this "release" avenue should be "substantially similar to" rather than "identical." It is common for various software of identical functionality to have minor and detailed differences that have no effect on performance levels, characteristics or functionality, i.e., differences that are insubstantial.

> **<u>Recommendation #12</u>: BIS and DDTC should revise the first sentence of subparagraph 3 of the "peculiarly responsible" definitions (within EAR § 772.1 and Note 3 to paragraph (a) of ITAR § 120.46, respectively) as follows**:
>
> > (3) It is **<u>hardware</u>** identical to**<u>, or is software substantially similar to,</u>** an **<u>item</u>** used in or with a commodity or software that:

[11] EAR Harmonization Definition at 31,520; ITAR Harmonization Definitions at 31,536.

[12] EAR Harmonization Definitions at 31,520.

viii. SIA Recommendation #13

The proposed revised ITAR definition of "defense article" clearly establishes that software and technical data are separate and distinct categories of defense articles.[13] That point should be made explicit within the ITAR definition of "technical data."

Recommendation #13: DDTC should add the following at the end of paragraph (a)(1) of the ITAR definition of "technical data":

> **"*While electronic information meeting the preceding description may be technical data, "software" is not technical data.*"**

and should add the following to paragraph (b) of the definition: *"(4) "Software*.""

C. Transfer (in-country) (Proposed EAR § 734.16; Proposed ITAR § 120.51)

i. SIA Recommendation #14

The proposed EAR definition of "transfer" and the proposed ITAR definition of "retransfer" are expanded to include any change in end use within the same foreign country.[14] This constitutes a fundamental alteration in the nature of export controls, is wholly inconsistent with the concept of transfer, and represents a substantial expansion of the extraterritorial reach of US controls contrary to principles of international law.

The proposal presents a variety of practical problems. Who is required to obtain permission from the US government to alter the use of an exported item? How and to what extent must a foreigner's use be monitored? What constitutes a change in end use?

A transfer implies the presence of a transferor and a transferee, something not present in a change of use by the same end user. Creating the legal fiction of a transfer is confusing and unnecessary.

This new assertion of authority is sure to be met with resistance by foreign end users and pose a significant competitive impediment for US exporters. It is one thing for a foreign end user to agree as part of an export transaction to accept restrictions on further export or even transfer of the items received. However, it would be most unnatural to subject to US government authority a foreign end user's own use of the items in his or her own country. In the vast majority of cases, the recipient will have paid for the items received, have clear title to and dominion over them and be acting in accordance with the applicable law of his or her country.

This extraterritorial expansion of US authority will also pose problems of law and jurisdiction for allied and friendly countries that make no such aggressive legal claims.

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[13] ITAR Harmonization Definitions at 31,526, 31,534.

[14] EAR Harmonization Definitions at 31,516; ITAR Harmonization Definitions at 31,537.

In the past, concerns about end use were appropriately addressed within the particular facts and circumstances of an individual case. If US officials conclude that an end user is untrustworthy and poses a risk to US security and foreign policy through the use of a US export, they simply do not issue an export license. This process has worked well and should be continued.

No national security or foreign policy justification has been publicly provided for this change and the adverse consequences for US exporters have not been systematically analyzed for the public. These should be prerequisites before making the proposed changes in the EAR or the ITAR.

Recommendation #14: The proposed EAR definition of "transfer (in-country)" and the proposed ITAR definition of "retransfer" should omit any mention of end use.

D. Published and Public Domain (EAR § 734.7; ITAR § 120.11)

i. SIA Recommendation #15

SIA supports the proposed definition of "published," and, in particular, paragraph 4 of the EAR proposed definition stating that "public dissemination . . . in any form . . . including posting on the Internet on sites available to the public" represents publishing of technology or software.[15] SIA agrees with BIS that once technology or software has been publicly disseminated, they should no longer be controlled under any circumstances. Items that have been publicly disseminated are no longer controllable, and it is futile and counter-productive to try to impose controls with respect to such items.

In contrast, Note 1 to the proposed revised definition of "public domain" in the ITAR establishes a prohibition against exporting, reexporting, transferring or making available to the public ITAR technical data or software without government authorization if a person has knowledge that the technical data or software has been made publicly available without authorization.[16] Lacking a public rationale or justification, this note runs directly counter to the EAR and common sense.

Furthermore, the revised ITAR definition of public domain also reflects the imposition of a prepublication approval requirement on public speech under the ITAR. Paragraph (b) of the revised definition explicitly sets forth the Department's requirement of authorization to release information into the ''public domain.'' Prior to making available ''technical data'' or software subject to the ITAR, the U.S. government must approve the release through one of the following: (1) The Department; (2) the Department of Defense's Office of Security Review; (3) a relevant U.S. government contracting authority with authority to allow the ''technical data'' or software

[15] EAR Harmonization Definitions at 31,515.

[16] ITAR Harmonization Definitions at 31,535.

to be made available to the public, if one exists; or (4) another U.S. government official with authority to allow the ''technical data'' or software to be made available to the public.[17]

The DDTC prepublication review requirement would operate as a prior restraint on free speech that applies to all would-be publishers of ITAR technical data, including to print and electronic news media outlets, engineering journals, public libraries, publishing houses, trade shows, and conference organizers. It also applies to persons who post information to electronic bulletin boards, company websites, and other online public forums.

In order both to enhance harmonization of the EAR and ITAR and adopt a more appropriate rule regarding technology or technical data in the public domain, DDTC should conform the ITAR to the EAR and dispense with any controls on technical data or software in the public domain.

<u>Recommendation #15</u>: DDTC should conform the ITAR definition of "public domain" to the EAR definition of "published" and dispense with any controls on technical data or software that have been publicly disseminated.

E. Activities That Are Not Exports, Reexports or Transfers (EAR § 734.18; Proposed ITAR § 120.52)

i. <u>SIA Recommendation #16</u>

Proposed new EAR § 734.18 and proposed new ITAR § 120.52 state that sending, taking or storing unclassified technology or software is not an "export," "reexport" or "transfer" if the technology or software is

(i) secured using end-to-end encryption,

(ii) secured using cryptographic modules compliant with Federal Information Processing Standards Publication 140-2 or its successors, supplemented by software implementation, cryptographic key management and other procedures and controls that are in accordance with guidance provided in current U.S. National Institute for Standards and Technology publications or "other similarly cryptographic means," and

(iii) not stored in a Country Group D:5 country.[18]

This is a very positive change which is supported by SIA. It is grounded in the modern reality of data protection and it will serve to enhance the secure transmission of data throughout the world.

At the same time, the precise nature of the improvement is unclear and uncertain, as several elements of the proposal are too constraining. In particular, the phrase "compliant with Federal Information Processing Standards Publication 140-2 (FIPS 140-2) or its successors" unnecessarily requires companies to adopt certain specific encryption algorithms. Instead, BIS

[17] ITAR Harmonization Definitions at 31,528.

[18] EAR Harmonization Definitions at 31,517; ITAR Harmonization Definitions at 31,537.

should require only that companies adopt encryption standards equivalent to and/or consistent with FIPS 140-2.

<u>Recommendation #16</u>: In new EAR § 734.18(a)(4)(iii) and new ITAR § 120.52(4)(iii), BIS and DDTC should replace "compliant with" with "equivalent to and/or consistent with".

ii. <u>SIA Recommendation #17</u>

SIA supports BIS's statement within proposed EAR § 734.18(a)(4)(iii) that "other similarly effective cryptographic means" are acceptable. DDTC should add this qualification to its companion proposal. In addition, DDTC too should require only that companies adopt encryption standards equivalent to and/or consistent with FIPS 140-2.

<u>Recommendation #17</u>: In new ITAR § 120.52(a)(4)(iii), DDTC should include that "other similarly effective cryptographic means" may be used to secure encrypted materials, and should replace "compliant with" with "equivalent to and/or consistent with".

F. Development (EAR § 772.1 and General Technology Note; ITAR § 120.47)

i. <u>SIA Recommendation #18</u>

The inclusion of "serial" production within the definition of "development" in EAR § 772.1 and the General Technology Note and in ITAR § 120.47 is misguided and should be reversed. The term "serial production" no longer applies to much of the current manufacturing environment within the high technology sector. Companies may design, develop, manufacture and export "technology" for a single prototype or proof-of-concept device which may never be serially manufactured, but is still subject to the EAR. This is particularly true for items sent to custom foundries. Inclusion of "serial production," rather than simply "production" within the definition of "development" makes that definition conflict with companies' business model and customer demand. BIS and DDTC should remove "serial" from the "development" definition to ensure that definition focuses on refining the scope of "technology," rather than restricting the scope based on the type of manufacturing.

<u>Recommendation #18</u>: BIS and DDTC should replace "serial production" with "production" in the definition of "development" in EAR § 772.1 and ITAR § 120.47.

III. Proposed ITAR Definitions

A. Software (ITAR §120.45(f))

i. SIA Recommendation #19

SIA applauds DDTC's clear distinction between software and technical data, with the former no longer being a subset of the latter.[19] At the same time, greater clarity is needed as to the types of software controlled by the ITAR. Such clarification is best provided by a revised definition of "software."

"Software" is not among the ITAR terms for which a revised definition is proposed, but it should be. The current ITAR definition of "software" is both too narrow and internally inconsistent (insofar as it includes "software" within the definition of that term.)[20] A revised definition of software would be most helpful.

The EAR definition of "software" forms a good benchmark and provides a comprehensive regulatory meaning to that term which comports with the commonly-understood meaning of the term. Given the elegance of that EAR definition, and the U.S. government's stated goal of harmonization, DDTC should develop a revised ITAR definition of "software" that adheres to the EAR definition.

While inclusion of a comprehensive, all-encompassing description of "software" is warranted, it is also important that the new software definition make clear that only certain types of software are subject to ITAR control. Specifically, the new definition should clarify that only software peculiarly responsible for the controlled performance levels, characteristics or functions of a defense article is subject to ITAR control. Such narrowing of controls can be accomplished by insertion of the newly defined "required" into the software definition. That is, DDTC should make clear that only software "required" for a defense article is included within the ITAR definition of that term.

Recommendation #19: DDTC should revise the definition of "software" in the ITAR along the following lines:

> ***A collection of one or more "programs" or "microprograms" fixed in any tangible medium of expression and "required" for a defense article. For these purposes, "program" means a sequence of instructions to carry out a process in, or convertible into, a form executable by an electronic computer, and "microprogram" means a sequence of elementary instructions, maintained in a special storage, the execution of which is initiated by the introduction of its reference instruction into an instruction register.***

[19] ITAR Harmonization Definitions at 31,526.

[20] ITAR § 120.45(f).

B. Defense Service (ITAR §120.9)

DDTC should modify the proposed definition of "defense service" in several respects.

i. SIA Recommendation #20

Paragraph (a)(1) of the proposed revised definition of "defense service" stipulates that a defense service is provided only if a U.S. person "has knowledge of U.S.-origin technical data directly related to the defense article."[21] Accordingly, provision of a defense service requires the transfer of technical data directly related to a defense article. That point should be made explicit in paragraph (a)(1) of the new "defense service" definition.

Recommendation #20: DDTC should add the following at the end of paragraph (a)(1) of the revised "defense service" definition: " . . . *and transfers to a foreign person that technical data directly related to a defense article."*

ii. SIA Recommendation #21

Paragraph (a)(2) of the proposed revised definition of "defense service" classifies as a defense service the furnishing of assistance in the "integration of a defense article with any other item." The Note to paragraph (a)(2) goes on to state that "Integration includes the introduction of software to enable operation of a defense article…"

This proposed definition of software "integration" is so broad and ambiguous as to include almost any activity involving software. That is, any activity associated with introducing or facilitating the introduction of software into a defense article could be captured by the proposed definition of "integration."

In addition, and contrary to a statement in the same Note, there does not appear to be any meaningful distinction for software between "integration" and "installation." While "installation" is described to exclude the use of technical data, "integration" is defined to include "the introduction of software" regardless of whether technical data is used to do so. On its face, "introduction" is indifferent to the use of technical data, thereby failing for software to provide a basis to distinguish "integration" from "installation."

Defining integration to include any "introduction of software to enable operation" eliminates the focus on the relationship of the software to the defense article. The software need not be "required," "peculiarly responsible," or "specially designed" for the defense article, nor even contribute to the controlled performance levels, characteristics or functions of the defense article for it to be deemed "integrated" into the defense article. Such a definition of "integration" is contrary to the plain meaning of the word and, again, eliminates any distinction between "integration" and "installation" in the case of software.

DDTC should modify the definition of "integration" provided in the Note to paragraph (a)(2) to include only introduction of software "required" for a defense article – i.e., software peculiarly responsible for achieving or exceeding the controlled performance levels,

[21] ITAR Harmonization Definitions at 31,534.

characteristics or functions of the defense article.[22] The introduction of software not peculiarly responsible for the controlled characteristics of the defense article should be explicitly included in the definition of "installation." By doing so DDTC would give meaning to the distinction between "integration" and "installation" for software and would appropriately classify as a "defense service" only the introduction of software that meaningfully contributes to the controlled characteristics of a defense article.

In addition, DDTC should make clear that software "integration" necessarily involves both the knowledge of U.S.-origin technical data and the use of such technical data. In the Note to paragraph (a), DDTC establishes that servicing of an item integrated into a defense article without the use of technical data is not a defense service.[23] DDTC should adopt the same position vis a vis software. That is, if DDTC insists on covering "integration" as a defense service, then it should clarify that software introduced or installed into a defense article without the use of technical data is not "integration" of the software. There is no reason to distinguish between hardware and software in that regard.

Finally, DDTC should make clear that "integration" does not cover the mere provision or transfer of software, and that instead software "integration" requires actual engagement with a customer in such a way that the software and defense article are blended and indivisible. In this context, software "integration" should occur only when provision of software includes activity specifically enhancing the controlled performance levels, characteristics or functions of a defense article. "Integration" should exclude any activity that relates solely to fit.

Recommendation #21: DDTC should revise the Note to paragraph (a)(2) of the "defense service" definition as follows:

> **"Integration" means any engineering analysis (*see* § 125.4(c)(5) of this subchapter) needed to unite a defense article and one or more items. Integration includes the introduction of software *required* ~~to enable operation of~~ *for* a defense article *if such introduction involves both the knowledge of U.S.-origin technical data and the use of such technical data,* and the determination during the design process of where an item will be installed (*e.g.,* integration of a civil engine into a destroyer that requires changes or modifications to the destroyer in order for the civil engine to operate properly; not plug and play). *Software integration occurs only if the provider of the software engages with the customer in such a way as to render the software and defense article blended and indivisible and involves activity specifically enhancing the controlled performance levels, characteristics or functions of the defense article. Software integration does not include modification to software to achieve the fit of the software with respect to the defense article.* Integration is distinct from "installation." "Installation" means the act of putting an item *including software* in its predetermined place without the use of technical data or any modification to the defense**

[22] Please see the discussion of the "required" definition above.

[23] ITAR Harmonization Definitions at 31,534.

article involved, other than to accommodate the fit of the item with the defense article (*e.g.*, installing a dashboard radio into a military vehicle where no modifications (other than to accommodate the fit of the item) are made to the vehicle, and there is no use of technical data.). *Introduction of software into a defense article represents installation, rather than integration, if the only modifications made to the software or defense article are related to fit.* The "fit" of an item is defined by its ability to physically interface or connect with or become an integral part of another item.

iii. SIA Recommendation #22

Among the activities deemed not be a "defense service" in the Note to paragraph (a) is "[T]he furnishing of assistance by a foreign person not in the United States." This example is straightforward and unqualified. Read in context, its meaning is clear.

In its discussion of the proposed definition of "defense service," however, DDTC notes:

> the furnishing of a type of assistance described by the definition of a "defense service" is not an activity within the Department's jurisdiction when it is provided by a foreign person outside the United States to another foreign person outside the United States on a foreign "defense article" using foreign-origin "technical data."[24]

The latter two conditions noted by DDTC – that the service be on a foreign defense article and use foreign-origin technical data -- do not appear in the proposed regulatory language (*i.e.*, in paragraph 6 of the proposed Note to paragraph (a)) and are not apparent from the language itself.

As a result, there appears to be a significant disconnect between the plain meaning of the language in paragraph 6 of the proposed Note to paragraph (a) and the manner in which DDTC intends to interpret that language. Such ambiguity is counterproductive and creates confusion for exporters.

There is no justification for limiting this exclusion to assistance employing foreign-origin "technical data." Determining whether technical data is of foreign origin often is extremely challenging and subjective, especially when the technical data at issue was generated by a company with both U.S. and foreign operations. In addition, the distinction between foreign-origin technical data and U.S.-origin technical data is inappropriate in this context. Assistance provided by a foreign person located in a foreign country to another foreign person located in a foreign country should not be designated as a "defense service" regardless of the type of technical data employed in the assistance.

In order to avoid unnecessary ambiguity and clarify the bounds of ITAR jurisdiction, DDTC should explicitly state in the Note to paragraph (a) that furnishing of assistance by a foreign person not in the United States is not a "defense service" regardless of the type of assistance provided or the type of technical data employed in doing so.

[24] ITAR Harmonization Definitions at 31,530. (emphasis added.)

<u>Recommendation #22</u>: DDTC should explicitly state in item 6 of the Note to paragraph (a) of the "defense service" definition that furnishing of assistance by a foreign person not in the United States is not a "defense service" regardless of the type of assistance provided or the type of technical data employed in doing so.

iv. <u>SIA Recommendation #23</u>

In item 3 of the Note to paragraph (a) of the defense service definition, DDTC notes that servicing of an item subject to the EAR that has been incorporated into a defense article is not a defense service.[25] DDTC should clarify that servicing may include introduction of software updates, patches and bug fixes.

<u>Recommendation #23</u>: DDTC should include the following at the end of item 3 of the Note to paragraph (a) of the "defense service" definition:

> ***In the case of EAR-controlled software incorporated into a defense article, "servicing" may include introduction of software updates, patches and bug fixes.***

v. <u>SIA Recommendation #24</u>

In conjunction with the software-related revision discussion above, DDTC also should explicitly note that provision of commercial software without the transfer of technical data is not a defense service.

<u>Recommendation #24</u>: DDTC should add the following at the end of the Note to paragraph (a) of the "defense service" definition:

> ***10. The introduction of commercial software into a defense article without the transfer of technical data directly related to the defense article.***

C. Production (New ITAR §120.48)

i. <u>SIA Recommendation #25</u>

The proposed ITAR definition of "production" inappropriately includes integration. The scope of integration is far too elastic and amorphous to be included in production. Instead, integration is an activity that occurs between items that already have been produced.

<u>Recommendation #25</u>: DDTC should remove "integration" from the ITAR definition of "production."

ii. <u>SIA Recommendation #26</u>

The term "serial production" no longer applies to much of the current technology/manufacturing environment. Production exists at any level of volume, and there

[25] ITAR Harmonization Definitions at 31,534.

should not be any distinction between production of one hundred items or hundred thousand items. DDTC should remove the discussion of "serial production" from the "production" definition to ensure that definition captures the full range of production.

<u>Recommendation #26</u>: DDTC should delete the discussion of "serial production" from the ITAR definition of "production."

D. Reexport

i. <u>SIA Recommendation #27</u>

Paragraph (a)(4) of the revised ITAR definition of "reexport" includes the phrase "regardless of whether such data has been or will be transferred." That phrase does not appear in the EAR definition of "export" and should be removed. Only actual transfers of controlled technical data should constitute a reexport.

<u>Recommendation #27:</u> DDTC should remove the phrase "regardless of whether such data has been or will be transferred" from ITAR § 120.19(a)(4).

E. Technical Data that Arises During or Results from Fundamental Research (New ITAR § 120.49)

SIA supports the inclusion of this definition within the ITAR. Nevertheless, both Notes to paragraph (a) of the proposed definition are in need of revision.

i. <u>SIA Recommendation #28</u>

DDTC should revise Note 1 to paragraph (a) of the definition to remove any mention of equipment or software. Neither equipment nor software is or can be technical data, so neither should be included in this definition pertaining to technical data.

<u>Recommendation #28</u>: DDTC should revise Note 1 to paragraph (a) of new ITAR § 120.49 to remove any mention of equipment or software.

ii. <u>SIA Recommendation #29</u>

As currently drafted, Note 2 to paragraph (a) of the definition could be interpreted to mean that the designation of technical data as being subject to the ITAR is irrevocable. Such an irrevocable ITAR designation would be wholly inappropriate, as unclassified data developed by a private researcher, institution or company should be removed from ITAR jurisdiction whenever it no longer qualifies for such jurisdiction.

<u>Recommendation #29</u>: DDTC should add the following at the end of Note 2 to paragraph (a) in new ITAR § 120.49: "*Such technical data shall no longer be subject to ITAR jurisdiction if it otherwise becomes exempt from ITAR jurisdiction.*"

iii. SIA Comment

SIA supports the clarification of the "fundamental research" definition. Industrial business units engaged in research and development collaborate on publications for the wider scientific and technical community in addition to their work on proprietary research. By using this proposed definition, entities will be able to implement concrete process changes to track fundamental research activities for compliance to determine if and when a research project falls under the scope of the EAR per Note 2 to paragraph (a).

* * * * *

SIA appreciates the opportunity to comment on the Proposed Revisions and looks forward to continuing its cooperation with the U.S. Government on export control reform. Please feel free to contact the undersigned or Joe Pasetti, Director of Government Affairs at SIA, if you have questions regarding these comments.

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