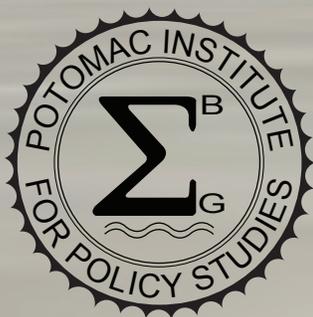


A POTOMAC INSTITUTE FOR POLICY STUDIES' REPORT

# AN ANALYSIS OF THE IMPACTS OF THE INTERNATIONAL TRAFFIC IN ARMS REGULATIONS (ITAR) ON U.S. NATIONAL SECURITY AND ECONOMIC INTERESTS



POTOMAC INSTITUTE FOR POLICY STUDIES  
901 N. Stuart St. Suite 1200  
Arlington, VA 22203

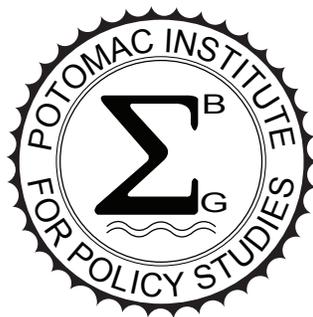
Copyright © 2016, by Potomac Institute for Policy Studies.  
All rights reserved.

Potomac Institute for Policy Studies  
Potomac Institute Press  
901 N. Stuart St, Suite 1200  
Arlington, VA, 22203  
[www.potomac institute.org](http://www.potomac institute.org)  
Telephone: 703.525.0770; Fax: 703.525.0299  
Email: [webmaster@potomac institute.org](mailto:webmaster@potomac institute.org)

NOTICE: This report is a product of the Potomac Institute for Policy Studies. The conclusions of this study are our own and do not necessarily represent the views of the participants. The publisher cannot assume responsibility for the validity of all materials or the consequences of their use.

The Potomac Institute for Policy Studies is an independent, 501(c)(3), not-for-profit public policy research institute. The Institute identifies and aggressively shepherds discussion on key science, technology, and national security issues facing our society. From these discussions and forums, we develop meaningful policy options and ensure their implementation at the intersection of business and government.

Cover image: Alex Taliesen.



# TABLE OF CONTENTS

<b>Executive Summary</b> .....	5
Findings, Conclusions, and Recommendations .....	6
<i>Findings</i> .....	6
<i>Conclusions</i> .....	7
<i>Recommendations</i> .....	7
<b>Background: What is ITAR?</b> .....	8
<b>Study Methodology</b> .....	11
Data-Gathering and Analysis .....	11
<b>Findings</b> .....	13
The ITAR continues to prevent the United States from capitalizing on the trained, yet global, workforce talent .....	13
The existing laws to foster compliant export activity are outdated and the system to update them is not dynamic .....	13
The current export control regulatory process is inefficient and burdensome for large companies, and almost impossible for smaller companies to abide by. ....	13
There are too few individuals with industry and technical experience involved in the rule making process. ....	15
The ITAR continue to make it difficult for academics to collaborate and for U.S. companies to compete globally, thus weakening both America's ability to compete and our technological industrial base .....	15
<b>Conclusions</b> .....	17
Companies need to be specialized to appropriately deal with the ITAR and are restricted in their talent pool, limiting the diversity of companies that can contribute to national security objectives, U.S. tax revenue, and technological advancement. . .	17
The current Export Control Reform effort started in 2009 has been unsuccessful in mitigating and/or correcting the impacts and problems caused by the ITAR as it intended to do. ....	17
The current legislation in place does not adequately respect new advances in technology, national threats, or a 21st century economy .....	19
<b>Recommendations</b> .....	20
The threat environment has changed from 1976, but the legislation has failed to keep pace. ....	20
<b>Appendix A: About the Potomac Institute for Policy Studies (PIPS)     and the Regulatory Science and Engineering Center (RSEC)</b> .....	23
<b>Appendix B: Literature Reviewed</b> .....	24
<b>Appendix C: Workshop Program</b> .....	25
<b>Appendix D: Seminar Program</b> .....	27
<b>Appendix E: "Stumbling Over ITAR" Seminar Transcript</b> .....	31
<b>Appendix F: List of Workshop and Seminar Participants</b> .....	55
<b>Appendix G: Briefing from RSEC Intern Josh Eisenberg</b> .....	56
<b>Appendix H: Cost of ITAR Briefing from Dr. Robert Hummel</b> .....	59
<b>Appendix I: Documents Governing the Regulatory Process</b> .....	61



**POTOMAC INSTITUTE FOR POLICY STUDIES**  
901 N. Stuart Street, Suite 1200 Arlington, Virginia 22203  
Phone 703/525-0770 Fax 703/525-0299  
[www.potomacinstitute.org](http://www.potomacinstitute.org)

March 8, 2016

**OFFICERS**

Michael S. Swetnam  
*Chairman & Chief Executive Officer*  
Thomas M. O'Leary  
*Executive Vice President*  
Gail G. Clifford  
*President for Financial Management & Chief Financial Officer*

**BOARD OF DIRECTORS**

Michael S. Swetnam  
*Chairman of the Board*  
Lyle Cox, Ph.D.  
General Al Gray, USMC (Ret.)  
Howard Schue  
Gary L. Sojka

**BOARD OF REGENTS**

General Al Gray, USMC (Ret.)  
*Chairman, Board of Regents*  
Yonah Alexander, Ph.D.  
VADM Albert J. Baciocco, Jr., USN (Ret.)  
Jeff "Skunk" Baxter  
The Honorable Lee Buchanan, Ph.D.  
Terry L. Collins, Ph.D.  
The Honorable Rita R. Colwell, Ph.D.  
Prof. James Giordano, Ph.D.  
RADM Ted Gordon, JAGC, USN (Ret.)  
Jay R. Grove  
The Honorable Charles M. Herzfeld, Ph.D.  
John Johnson  
The Honorable Donald Kerr, Ph.D.  
Kathleen Kiernan, Ph.D.  
Francis Landolf  
Brian Morra  
A. Alan Moghissi, Ph.D.  
The Honorable Alden V. Munson, Jr.  
Gordon Oehler, Ph.D.  
Hank Orejuela, Ph.D.  
Joseph Paresi  
Fred Saalfeld, Ph.D.  
Timothy R. Sample  
Howard Schue  
Ambassador David Smith (Ret.)  
George Spix  
LtGen Keith J. Stalder, USMC (Ret.)  
Gene T. Sykes  
James Tate, Jr., Ph.D.  
Anthony J. Tether, Ph.D.  
LtGen Donald C. Wurster, USAF (Ret.)  
Gerald Yonas, Ph.D.  
The Honorable John J. Young, Jr.

Dear Members of the U.S. Congress,

The Potomac Institute for Policy Studies was created to address the most important science & technology policy issues of our time. The Institute has concluded a yearlong study effort aimed at understanding the impacts of the International Traffic in Arms Regulations (ITAR) on US national security and economic interests. Despite the 7-year long, well-intended Export Control Reform (ECR) Initiative carried out by the Executive Branch, the ITAR continue to harm our national security and economic interests more than protect them.

This report documents the Institute's study of the ITAR that included a rigorous literature review, as well as engagement with government leadership involved in the actual implementation of the ECR Initiative and leaders from the sciences, defense industry, information technology sector, academia, military and legal communities. The findings in this report support our recommendation for new enabling legislation **that rescinds the ITAR.**

The ITAR no longer safeguards this country from our adversaries' use of critical knowledge and technology. It's time we stopped impeding our industry while providing little safety from our adversaries. The Institute appreciates you taking the time to consider the importance of this issue.

If you have any questions about this report, I can be reached at **MikeSWET@PotomacInstitute.org** for further details.

Sincerely,

Michael S. Swetnam  
CEO and Chairman  
Potomac Institute for Policy Studies

# EXECUTIVE SUMMARY

The International Traffic in Arms Regulations (ITAR), the set of regulations that limit U.S. exports in the name of national security, need to be rescinded with new enabling legislation because they continue to be a threat to the United States (U.S.) national security and economic interests despite a well-intended Executive reform initiative that has taken place over the last seven years.

The Potomac Institute has followed and actively engaged in the decades of debate surrounding U.S. export control rules and laws. The Institute noted in 2009 that the Executive Branch began its Export Control Reform (ECR) Initiative to address the many concerns of various stakeholders, such as those highlighted in a 2009 National Academy of Sciences (NAS) report that examined the impacts of these rules and laws.<sup>1</sup> In 2015, the Institute opened a center focused on using science to improve regulations and regulatory policies –the Regulatory Science & Engineering Center (RSEC). One of its first studies was following up on the current reform initiatives taking place regarding the ITAR and determining what kinds of impacts the ITAR were still having on national security and economic interest related to science & technology (S&T).

In carrying out this study the Institute conducted an extensive literature review regarding government, industry and academic accounts of the impacts the ITAR were having on the U.S. Additionally, the study team held workshops and seminars with experts in actually implementing the ITAR reform efforts and leaders from the sciences, defense industry, information technology sector, academia, military and legal communities.

Our analysis found that the ITAR restricts companies' abilities to develop and export certain technologies with potential military application. The regulations simultaneously inhibit international collaboration in relevant research and development, banning industry and academic scientists from sharing technical information with foreign entities and individuals. In today's interconnected, globalized world that struggles with a diverse array of threats, ITAR impedes domestic scientific growth and weakens the national security of the U.S. and its foreign partners. In many ways our findings and conclusions reflect the same kinds of issues the NAS identified in 2009. Although, the recommendations of that study indicated the best solution was Executive rather than Legislative because it was believed Executive action could act more swiftly to address the many problems that needed rapid solutions.

After seven years, our analysis indicates that many of the same problems still exist that prompted the reform effort indicating that a new strategy needs to be considered. Efforts to reform ITAR have not been successful because the underlying assumptions of the ITAR framework are flawed. Therefore, we conclude that the best course of action is to ***sunset ITAR***.

This report is a detailed account of our study methods and a thorough description of the findings, conclusions and recommendations from our analysis regarding the impacts of the ITAR on U.S. national security and economic interests related to S&T. The following is an abbreviated description of these findings, conclusions and recommendations.

---

1. National Research Council. 2009. Beyond "Fortress America": National Security Controls on Science and Technology in a Globalized World. Washington, D.C.: National Academies Press. doi:10.17226/12567.

## Findings, Conclusions, and Recommendations

### Findings

**Many of the same problems that triggered the Executive Branch's 2009 Export Control Reform Initiative still exist and continue to jeopardize U.S. national security and economic interests.**

- **The ITAR continues to prevent the United States from capitalizing on the trained, yet global, workforce talent.** The ITAR not only prevents export of defense articles, but it also prevents non-U.S. persons from working on projects protected under the ITAR. This severely limits the talent pool for companies working in the defense industry, limiting the talent available to innovate and create national security.
- **The existing laws to foster compliant export activity are outdated and the system to update them is not dynamic.** The original legislation created decades ago has been built upon rather than renovated, administering tedious and intricate regulations that no longer serve purpose and in some cases create obstacles in innovation. While the ITAR was appropriate at the time it was introduced, the world has changed dramatically and we are in need of a more updated system.
- **The current export control regulatory process is inefficient and burdensome for large companies, and almost impossible for smaller companies to abide by.** While the reform efforts were intended to make a more streamlined process, businesses are more confused about the appropriate authority for licensing. Small businesses cannot afford the team of experts necessary to comply with the export control laws putting them at a significant disadvantage to their larger counterparts.
- **There are too few individuals with industry and technical experience involved in the rule making process.** There is too often a disconnect between the regulators and industry on the impact of regulations and the compliance measures. Technical expertise should be utilized for rules that deal with engineering issues and all stakeholders should be able to voice concerns about the impact of compliance.
- **The ITAR continue to make it difficult for academics to collaborate and for U.S. companies to compete globally, thus weakening both America's ability to compete and our technological industrial base.** The ITAR restrict the ability for U.S. companies to engage in various markets by requiring parts or all of their products to comply with the ITAR, even in cases where these parts and products already exist on the global markets. Recently, two major U.S. companies were excluded from bidding on the Indian governments fighter jets, likely due to the complications of ITAR.<sup>2</sup> Additionally, the restrictions the ITAR place on sharing certain types of information impedes collaboration, making it difficult for U.S. industry and academia to engage in innovative, multi-national research endeavors.

2. Herdem, Safak. 2014. "U.S. Defense Industry: the Impact of ITAR for the Business." Mondaq.com. July 3. <http://www.mondaq.com/turkey/x/320640/Terrorism+Homeland+Security+Defence/US+Defense+Industry+The+Impact+Of+ITAR+For+The+Business>.

## Conclusions

**The Export Control Reform Initiative started in 2009 has been unable to produce the results it set out to achieve indicating that Congressional action, instead of Executive action, is needed to address the problems associated with the ITAR.**

- **Companies need to be specialized to appropriately deal with the ITAR and are restricted in their talent pool, limiting the diversity of companies that can contribute to national security objectives, U.S. tax revenue, and technological advancement.** In order to remain profitable and work with defense articles, companies optimize their organizational structure to properly comply with ITAR regulations. This cultivates a company structure set-up to strictly abide by ITAR rules, and it prevents newer, innovative companies from entering the defense market on a level playing field. The United States is putting itself at a disadvantage by losing tax revenue and access to companies, technology, and talent by implementing such restrictive regulations. The United States has handicapped itself and its industries by allowing regulations to restrict who we can hire and who wants to do business inside our borders.
- **The current Export Control Reform Initiative started in 2009 has been unsuccessful in mitigating and/or correcting the impacts and problems caused by the ITAR, as intended.** Due in large part to inefficiencies in the U.S. regulatory system, the reform effort has been unable to adequately respond to the serious national security and economic impacts the ITAR is having on the United States. The informal rulemaking process codified by the Administrative Procedure Act that has been used to implement the Export Control Reform Initiative failed to ensure significant stakeholder involvement during the development of the reform regulations and policies. In many cases, this led to the new regulations having the opposite effect on industry and academia as they were designed to have.
- **The current legislation in place does not adequately respect new advances in technology, national threats, or a 21st century economy.** Changes in foreign policy and the globalization of business make the extant ruleset irrelevant and inappropriate in response to the current threat environment. Technology and business are adapting and advancing at a historical pace and it would be appropriate for legislation to advance with them.

## Recommendations

**Congress needs to enact new enabling legislation that rescinds the ITAR.**

- **The threat environment has changed from 1976, but the legislation has failed to keep pace.** It is time to remove the burden of the ITAR and contemplate more effective means of achieving national security interests. The inefficient regulation process hinders innovative creation and free flow of technologies. Removing regulations that are complicated and burdensome to industry will promote a larger diversity of companies in the defense market. Further assistance

to new small businesses will incentivize innovation in selecting defense contractors. By removing ITAR, U.S. companies will be able to access the global workforce talent and recruit the best and brightest to innovate and strengthen U.S. national security interests. Additionally, the influx of businesses eager to capitalize on an ITAR-free U.S. will strengthen our economy with increased tax revenue. By focusing on the most important technologies for national security, the government promotes business growth in non-vital sectors while protecting our interests in advancements that protect our borders and people. A balance between commercial productivity and technological secrecy are necessary for upholding our national security and ensuring that the United States remains at the forefront of innovation.

## BACKGROUND: WHAT IS ITAR?

The International Traffic in Arms Regulations (ITAR) are but one component of the nation's export control system. The genesis of ITAR, and of the related Export Administration Regulations (EAR), go back to the Arms Export Control Act (AECA) of 1976,<sup>3</sup> which builds upon a series of Export Control Acts dating back to 1940.<sup>4</sup> The AECA gave the Executive Branch the authority to control exports of "defense articles and services." The purpose of ITAR is to control the export of munitions and defense technologies and is designed to "promote our national security interests and foreign policy objectives."<sup>5</sup> ITAR is meant to maintain U.S. military dominance and deny advanced military technologies to potential foreign adversaries. As a result of the system, anyone wishing to export any product, item, idea, money, or information to any foreign person whether in the United States or abroad, needs to be concerned with whether there is a need for an export license, or whether the item is subject to export control.

The Export Administration Act of 1979 implemented ITAR. This responsibility was subsequently assigned to the Department of State from 1977 to 1992, at which time this authority was transferred to the Department of Commerce. The Department of State was reassigned control in 1999. The transfer of control between State and Commerce is likely due to prioritization of national security over economic growth. The intent of the legislation, developed amidst the Cold War, was to restrict sales and "trafficking" in military equipment and services so as to lessen the likelihood of regional conflicts. It was designed to help promote U.S. economic interests, which include assurance of military equipment sales to friendly nations. The AECA seeks to promote cooperation among friendly nations for mutual defense, including sharing of defense information and research results.<sup>6</sup> A history of ITAR's evolution and convoluted association with multiple federal agencies can be found in the open access paper "Global Impact of ITAR on the For-Profit and Non-Profit Space Communities."<sup>7</sup>

3. [https://www.pmdtc.state.gov/regulations\\_laws/aeca.html](https://www.pmdtc.state.gov/regulations_laws/aeca.html).

4. <http://www.history.com/this-day-in-history/united-states-passes-export-control-act>.

5. <http://www.state.gov/strategictrade/overview/>.

6. See 22 U.S.C. Section 2751, "...facilitate the common defense by entering into international arrangements with friendly countries which further the objective of applying agreed resources of each country to programs and projects of cooperative exchange of data, research, development, production, procurement, and logistics support to achieve specific national defense requirements and objectives of mutual concern."

7. <http://dspace.mit.edu/handle/1721.1/80837>.

Today, there are three agencies that participate in the export control regime:

1. Department of State,
2. Department of Commerce, and
3. Department of the Treasury.

There are two major lists that a potential exporter needs to consider:

1. the United States Munitions List (USML), which is a list of “restricted” exports that fall under ITAR,
2. and the Commerce Control List (CCL).

Administered by the Department of State, the Department of Defense (DoD) is particularly concerned with the USML, through the Defense Technology Security Administration (DTSA).<sup>8</sup> There are complex regulatory processes whereby the restrictions are updated and the lists are examined and modified. With Internet access, there is an easy way to gain access to unofficial updated versions of the USML and the CCL.<sup>9</sup> However, the official legal lists are based on baseline publications together with all amendments as published in the Federal Register. Accordingly, if one is considering the sale of a U.S.-produced item in foreign markets, then it is relatively straightforward, albeit diversionary, to determine if an export license is required. Actually applying for an export license can be a complicated and lengthy process.

The ITAR prohibits the export of defense articles and defense services, as carefully defined in Part 120. While the original legislation does not provide definitions for “defense services” and “defense articles,” enabling regulations and subsequent amendments make clear that definitions can be found in Section 644(d) and (f) of the Foreign Assistance Act of 1961 (22 U.S.C. 2403). Defense services include defense information that is transmitted for the deliberate purpose of providing military assistance. Defense information, according to the act, is defined as follows:

**“Defense information” includes any document, writing, sketch, photograph, plan, model, specification, design, prototype, or other recorded or oral information relating to any defense article or defense service, but shall not include Restricted Data as defined by the Atomic Energy Act of 1954, as amended [42 U.S.C. 2011 et seq.], and data removed from the Restricted Data category under section 142d of that Act [42 U.S.C. 2162(d)].<sup>10</sup>**

The ITAR further restricts defense services, which includes:

**(1) The 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;**

8. <http://www.dtsa.mil/about-dtsa/mission-culture-history.aspx>.

9. The unofficial updated USML is at <http://www.ecfr.gov/cgi-bin/text-idx?SID=86008bd-ffd1fb2e79cc5df41a180750a&node=22:1.0.1.13.58&rgn=div5>; the unofficial CCL maintained by the Bureau of Industry and Security of the Department of Commerce is at <https://www.bis.doc.gov/index.php/regulations/export-administration-regulations-ear>.

10. 22 U.S.C. § 2403(e).

**(2) The furnishing to foreign persons of any technical data controlled under this subchapter (see § 120.10), whether in the United States or abroad.<sup>11</sup>**

Defense articles include technical data concerning items on the USML. Technical data is defined as follows:

**(a) Technical data means, for purposes of this subchapter:**

**(1) Information, other than software as defined in § 120.10(a)(4), which is required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance or modification of defense articles. This includes information in the form of blueprints, drawings, photographs, plans, instructions or documentation.**

**(5) This definition does not include information concerning general scientific, mathematical or engineering principles commonly taught in schools, colleges and universities or information in the public domain as defined in § 120.11. It also does not include basic marketing information on function or purpose or general system descriptions of defense articles.<sup>12</sup>**

Technical data is thus explicitly information, which can be viewgraphs, drawings, verbal presentations, or digital data on an accessible server or in an email message. Thus, when we speak of ITAR technical information, we mean “defense information” that relates to an article restricted by ITAR (i.e., related to an article on the USML). ITAR prohibits providing technical information to a foreign national, whether in the United States or abroad, based on an assumption that the information will knowingly provide military assistance. Note that the original definition predates the Internet age, before information was easily transported across borders and among colleagues digitally. Whereas the regulations envisioned the transport of physical documents and physical presentation of information, now an email can be a defense article. ITAR explicitly does not apply to basic knowledge taught in schools, but this exception would not include research that discovers new knowledge. Thus ITAR inhibits research at universities that might otherwise apply to defense systems, when foreign graduate students or postdocs might be involved. Of course, the transmission of certain types of defense information is also restricted by the security laws and regulations that implement the rules concerning classified information.

The export control system contains many bureaucratic insertions, amendments, and complex definitions. For example, ITAR makes a distinction between a “U.S. person” and a “non-U.S. person.” A “U.S. person” involves a convoluted definition that includes U.S. citizens, many people with “U.S. permanent residency,” and certain corporations that are predominantly located in the United States. A U.S. person is not necessarily a person. Accordingly, ITAR prohibits providing information to a foreign national, whether in the United States or abroad, if that information will knowingly provide military assistance, unless there is an export license. Therefore, an email sent to a colleague across the hall, who happens to be a foreign person, can be a prohibited defense

11. *Ibid*, Part 120.9.

12. [http://pmddtc.state.gov/regulations\\_laws/documents/official\\_itar/ITAR\\_Part\\_120.pdf](http://pmddtc.state.gov/regulations_laws/documents/official_itar/ITAR_Part_120.pdf); Part 120.10.

service. Release of technology within the borders of the United States is called a “domestic export,” or, as defined by the Department of Commerce, a “deemed export.”<sup>13</sup> In its current incarnation, a violation of ITAR need not be an intentional service to a foreign entity, but rather a simple and potentially unwitting transfer of information.<sup>14</sup>

## STUDY METHODOLOGY

In 2009, the National Academy of Sciences recognized a large set of regulations known as the International Traffic in Arms Regulations (ITAR) as a major threat to the U.S national security and economic interests.<sup>15</sup> Reports such as this prompted RSEC to examine the ITAR to understand its current impacts, as well as past and current reform efforts.

Managed by the Department of State, ITAR is implemented through the Arms Export Control Act of 1976 (AECA) to control the export of defense articles. At the time, the legislation was designed to maintain American technological superiority while denying advanced military capability to potential foreign adversaries. In effect, ITAR restricts companies' abilities to develop and export certain technologies with potential military application. The regulations simultaneously inhibit international collaboration in relevant research and development, banning industry and academic scientists from sharing technical information with foreign entities and individuals. In today's interconnected, globalized world that struggles with a diverse array of threats, ITAR impedes domestic scientific growth and weakens the national security of the United States and its foreign partners.

The Institute leadership identified the need for a long-term research endeavor that accounts for stakeholder perspectives and crafts the most logical policy options. This required a series of Institute-sponsored seminars and workshops that focus on different issues within ITAR and their affected fields. After completing a literature review and hosting a workshop, seminar, and a multitude of non-attribution interviews, the study team determined there was sufficient evidence to suggest greater, pervasive complications with ITAR.

### Data-Gathering and Analysis

The study team conducted a thorough literature review of relevant studies, reports, policies and articles. These can be identified in Appendix B. The primary goal of this literature review was to identify the criteria from which previous analyses regarding the impacts of the ITAR on U.S national security and economic interests were based upon. Additionally, examination of this literature provided context as to how various policy issues have been identified with regards to the implementation and enforcement of the ITAR, as well as the successes and failures of past reform efforts.

A workshop was held on July 27, 2015 to discuss the current impacts of the ITAR and the success of the 2009 Export Control Reform effort undertaken by the Executive Branch. Based on the

13. EAR §734.2(2)(ii).

14. [http://www.mccarter.com/files/Uploads/Documents/Website/NYLJ\\_ForeignNationals\\_080612.pdf](http://www.mccarter.com/files/Uploads/Documents/Website/NYLJ_ForeignNationals_080612.pdf).

15. National Research Council. *Beyond 'Fortress America': National Security Controls on Science and Technology in a Globalized World*. Washington, DC: The National Academies Press, 2009. doi:10.17226/12567.

premise of this workshop, experts familiar with these issues were chosen based on either their direct knowledge regarding the impacts of the ITAR on the military, industry, and academia or their direct involvement with designing, managing, and enforcing the ITAR prior to and during the 2009 Export Control Reform effort. These experts ranged from senior leadership within the DoD, to CEOs whose companies are directly impacted by the ITAR, to past/current employees of the Directorate of Defense Trade Controls within the Department of State. Due to the sensitive nature of this discussion for many of our stakeholders, statements from the workshop participants are not attributed directly, but a summary of the study efforts following this workshop can be found in Appendix G.

This workshop confirmed many of the findings and conclusions our literature analysis revealed. For one, both the regulator and regulated stakeholders in attendance agreed that there were many flaws in the way the ITAR are implemented and developed. An actual consensus opinion was formed between this group that suggested the regulators and regulated would benefit, as well as the United States in general, by developing a new piece of enabling legislation that was better equipped to carry out the original intent of the American Export Control Act and the ITAR that implement it. Further information can be found in Appendix C and Appendix F.

Based on the analysis of the results of this workshop, preliminary policy recommendations were formed and a strategy developed to vet these recommendations through informed debate and discussion. A major part of this was the organization of a seminar held at the Potomac Institute on December 1st that featured a truly distinguished panel with decades of experience regarding the impacts of ITAR. The panel notably included the primary legal counsel at Venable, LLP for ITAR related legal matters, a primary government official responsible for carrying out the 2009 Export Control Reform effort, and former government expert with over 24 years of experience dealing in national security issues. In addition, the audience was filled with additional experts both familiar with the impacts of large sets of regulations on industry and the ITAR specifically.

Although new insights and information were obtained from this discussion, a similar consensus opinion was formed regarding the need for a new enabling legislation to address the problems associated with the impacts of the ITAR and inefficiencies/inadequacies associated with the latest government ITAR reform efforts. This mutual opinion called for the rescinding of the ITAR via new legislation and replacing it with a system that protected only the most important technological capabilities. Further information can be found in Appendix D, Appendix E, and Appendix F.

Our analysis of the current state of the ITAR identified many of the same findings and conclusions regarding the impacts of the ITAR on U.S. national security and economic interests as were found in the 2009 National Academies of Sciences study that largely motivated the Executive Branch's 2009 Export Control Reform effort. The recommendations of that study indicated the best solution was Executive rather than Legislative because it was believed Executive action could act more swiftly to address the many problems that needed rapid solutions. After seven years, our analysis indicates that many of the same problems still exist that prompted the reform effort indicating that a new strategy needs to be considered. Efforts to reform ITAR have not been successful because the underlying assumptions of the ITAR framework are flawed. Therefore, we conclude that the best course of action is to sunset ITAR.

## FINDINGS

### **The ITAR continues to prevent the United States from capitalizing on the trained, yet global, workforce talent.**

The ITAR not only prevents export of defense articles, but it also prevents non-U.S. persons from working on projects protected under the ITAR. This severely limits the talent pool for companies working in the defense industry limiting the talent available to innovate and create national security. The convergence of systems and information is such that ITAR's primary effect is to restrict the free flow of information; the export of actual defense systems is typically regulated by treaties, agreements, and other export control provisions. Systems and information are increasingly equivalent, as information to make a munition becomes tantamount to the ability to acquire that weapon. Since nearly any system can be reverse-engineered given sufficient diligence, possessing a weapon system amounts to having the information about that system. Thus ITAR became strongly restrictive of the export of technical information. Effectively, the migration from controlling the export of physical articles to controlling the disclosure of information was necessary, as information became the dominant source for acquiring systems.

### **The existing laws to foster compliant export activity are outdated and the system to update them is not dynamic.**

The original legislation created decades ago has been built upon rather than renovated, administering tedious and intricate regulations that no longer serve purpose and in some cases create obstacles in innovation. While the ITAR was appropriate at the time it was introduced, the world has changed dramatically and we are in need of a more updated system. There remains an underlying assumption in ITAR concerning information about USML articles, that the United States maintains technical dominance in each area. It makes no sense to protect information when adversaries have superior products and thus superior information. Historically, the United States excelled in areas of technology, such that the USML exclusively contained articles for which the United States was the world's leader. Although the USML is updated from time to time (and is so mandated in the original legislation), it is not maintained with sufficient technical understanding of the international landscape. Indeed, ITAR is a powerful incentive to foreign friends and adversaries alike to develop their own military technology research programs. Further, certain communities have complained that by restricting their sales market, ITAR has impeded their technological development for subsequent generations. Examples include the fields of satellites<sup>16,17</sup> and high energy lasers,<sup>18</sup> potentially causing the United States to fall behind competitors.

### **The current export control regulatory process is inefficient and burdensome for large companies, and almost impossible for smaller companies to abide by.**

This export control framework is based on many complex definitions, bureaucratic insertions, and amendments. For example, ITAR makes a distinction between a "U.S. person" and a "non-U.S. person." There are further complications involving "dual nationals" and "third country nationals,"

16. <http://archive.cspo.org/igscdocs/Ryan%20Zelnio.pdf>

17. <http://www.satellitetoday.com/publications/2008/07/01/itar-dilemma-finding-the-balance-between-regulation-and-profit/>

18. <http://www.laserfocusworld.com/articles/print/volume-51/issue-06/columns/market-insights/market-insights-u-s-military-high-energy-laser-development-hindered-by-itar-regulations.html>

for so-called “third party transfers.”<sup>19</sup> The law makes a distinction among different classes of weapons, including “Significant Military Equipment” (SME), and the Missile Technology Control Regime Annex (MTCR),<sup>20</sup> along with the Department of Defense Military Critical Technologies List (MCTL) and the Developing Science and Technologies List (DSTL).<sup>21</sup> The 21st category in the USML is titled “Miscellaneous Articles,” which includes “any article not specifically enumerated in the other categories” with military applicability designed for military purposes, or technical data or services related to such an article.<sup>22</sup> Finally, there are different categories of foreign people, which need to be accounted in terms of a potential transfer. For example, a university can disclose ITAR technical data to a foreign person who is a full-time employee (e.g., postdocs), providing certain procedures are followed and that the employee is not from a country to which the United States observes an arms embargo, which includes China.<sup>23</sup> A similar complication arises with respect to dual nationals who are employees of an end-use company that has been approved for an export of a product or technical data.

The news media and those subject to its restrictions often ridicule the fact that defense articles include technical information, such as the inclusion of software and encryption technology on the USML.<sup>24</sup> Non-military systems that contain USML components themselves become ITAR restricted, which induces foreign manufacturers to use non-U.S. components in order to advertise their systems as “ITAR-free.”<sup>25</sup> Further, once an article (whether a system or information) is subject to ITAR, it is restricted from further export no matter where it is – re-export requires a license.<sup>26</sup> ITAR has global reach. This encourages U.S. companies to avoid participating in defense work for fear of tainting their products with the ITAR label.<sup>27</sup>

Nevertheless, we maintain that there is often a need to restrict the transfer of information. It is one thing to sell a missile to an adversary such that it might be used in a conflict against us, but it is quite another to provide the information needed to manufacture, sell, and utilize thousands of missiles. Since digital information is so easily shared, and with the coming possibility of providing files of data that permit the near-instant manufacture, via 3-D printing, of true defense articles, it becomes more urgent than ever to ensure that information pertaining to munitions, weapons, and national security be kept truly secure. The current lists (the USML and CCL) do not, however, appropriately differentiate between what needs to be protected, and what can be safely made open source. While the reform efforts were intended to make a more streamlined process, businesses are more confused about the appropriate authority for licensing. Small businesses cannot afford the team of experts necessary to comply with the export control laws putting them at a significant disadvantage to their larger counterparts.

---

19. <http://www.state.gov/t/pm/rsat/c14025.htm>.

20. See Part 121.1(b) and (c).

21. <https://securityledger.com/2013/01/funding-cut-militarys-list-of-critical-defense-technologies-languishes/>.

22. Part 121.1, Category XXI—Miscellaneous Articles.

23. 22 CFR Part 125.4 (10), referencing 22 CFR Part 126.1, (a).

24. <http://www.washingtonpost.com/wp-srv/politics/special/encryption/encryption.htm>.

25. <http://worlddec.com/wp-content/uploads/2012/07/ITAR-download-article.pdf>.

26. <https://www.bis.doc.gov/index.php/licensing/reexports-and-offshore-transactions>.

27. <http://defensetradelaw.com/2015/03/18/changes-undermines-key-dod-acquisition-goal/>.

### **There are too few individuals with industry and technical experience involved in the rule making process.**

There are proposed changes to the definitions of ITAR “technical data” that would strengthen legal sanctions against sharing design files, such as 3-D printable guns.<sup>28</sup> These changes would attempt to systematize the differentiation between information that should be kept secure versus what can be posted. However, because the onus of interpretation is left to the person possessing the information, enforcement is likely to be capricious and post-facto.

There is too often a disconnect between the regulators and industry on the impact of regulations and the compliance measures. Technical expertise should be utilized for rules that deal with engineering issues and all stakeholders should be able to voice concerns about the impact of compliance. As a result, our current treatment of technical information is haphazard and irrational. We attempt to protect “Sensitive But Unclassified” design data for the F-35, only to discover that Chinese cyber warriors pillage the networks for intelligence to speedily develop their own jet fighter.<sup>29</sup> We actively collaborate with the Chinese on advanced thorium-based molten-salt cooled nuclear power plant development, which will help modernize its navy.<sup>30</sup> We decry Chinese censorship of the Internet, and yet we expect U.S. researchers to self-censor their postings of research results.<sup>31</sup> At issue is whether ITAR is the appropriate discriminant of information that should be secured.

### **The ITAR continue to make it difficult for academics to collaborate and for U.S. companies to compete globally, thus weakening both America’s ability to compete and our technological industrial base.**

ITAR places the burden on the developer, researcher, or person possessing information. Essentially, every U.S. person is expected to know and understand the USML in order to prevent transfer of ITAR technical information to a non-U.S. person. Since an export occurs with a mere email message or verbal communication, ITAR expects total familiarity with the USML, and for researchers in certain fields to exercise great restraint in scholarly communications.<sup>32</sup>

The ITAR restrict the ability for U.S. companies to engage in various markets by requiring parts or all of their products to comply with the ITAR, even in cases where these parts and products already exist on the global markets. Recently, two major U.S. companies were excluded from bidding on the Indian governments fighter jets, likely due to the complications of ITAR.<sup>33</sup> Additionally, the restrictions the ITAR place on sharing certain types of information impedes collaboration, making it difficult for U.S. industry and academia to engage in innovative, multi-national research endeavors.

28. <http://3dprint.com/71532/itar-3d-print-guns/>.

29. <http://www.reuters.com/article/2013/06/19/usa-fighter-hacking-idUSL2N0EV0T320130619>.

30. <http://fortune.com/2015/02/02/dae-china-molten-salt-nuclear-reactor/>.

31. [http://www.nature.com/news/2009/090909/full/461156a.html?s=news\\_rss](http://www.nature.com/news/2009/090909/full/461156a.html?s=news_rss).

32. Beginning in the 1990’s, this was a major concern for number theorists working on encryption algorithms. A court case based on infringement of first amendment free speech resulted in changes to the export administration regulations; see *Bernstein v. US Department of Commerce*, [https://www.eff.org/files/filenode/bernstein/20020107\\_amended\\_complaint.pdf](https://www.eff.org/files/filenode/bernstein/20020107_amended_complaint.pdf).

33. Herdem, Safak. 2014. “U.S. Defense Industry: the Impact of ITAR for the Business.” Mondaq.com. July 3. <http://www.mondaq.com/turkey/x/320640/Terrorism+Homeland+Security+Defence/US+Defense+Industry+The+Impact+Of+ITAR+For+The+Business>.

There are recurring concerns over the constitutionality of the implied prior restraint on free speech imposed by ITAR.<sup>34</sup> These concerns have only been heightened by recent reform efforts.<sup>35</sup> While the First Amendment does not protect speech that divulges classified information, as early as 1981, the Department of Justice warned that technical data disseminated by someone “unconnected with any foreign enterprise” to a foreign person, even when it is known that the information may be used in the manufacture or use of arms, is protected free speech.<sup>36</sup> Because ITAR is enforced through prosecutions<sup>37</sup> and threat of prosecutions, it denies rights guaranteed by the Constitution when it inhibits speech that poses no grave and immediate threat to national security.

Further, every industry, small business, and university lab that engages in defense research work, together with all people in those organizations, must track the “U.S.-person” status of every staff member and every visitor.<sup>38</sup> Conferences and presentations concerning defense research will often need to restrict attendance, and must again be cognizant of the status of each attendee. Universities with foreign graduate students and postdocs, many of whom are awaiting green cards, must carefully consider whether they will accept contracts and grants that sponsor research related to defense technologies, for fear of inadvertent violations based on domestic export of unclassified information.

This might not be such a burden if the USML were clear and concise, and if the distinction between defense work and commercial research were well-articulated. But the increasing globalization and convergence of technology research with multi-use objectives makes discernment with the USML impossible. The lack of U.S.-personhood identity cards means that the regulations are dependent on foreign persons declaring that they are foreign. As a result, compliance is based on guesswork. And if the United States lead in technical areas of the USML were still as commanding as it once was, then protecting the information from disclosure would still make sense. But we are now largely protecting outdated information.

The costs of ITAR are not just the encumbrances of compliance, nor the opportunity costs of the work that might be done in place of compliance efforts, but also the missed opportunities caused by behaviors undertaken to avoid being covered by the law.

Both domestic and foreign industries avoid purchasing American components in order to develop versions of their products that are “ITAR-free.”<sup>39</sup> U.S. multinationals have been establishing research centers abroad, in part to enable research by non-U.S. persons in directions that might be subject to ITAR if performed domestically by U.S. employees.<sup>40</sup> ITAR not only suppresses commerce by restricting foreign sales, but also erodes America's technological dominance by inhibiting our best scientists and researchers from collaborating on a myriad of technical areas.

34. <http://defensetradelaw.com/2015/06/03/itar-control-of-public-speech/>.

35. <http://www.wired.com/2015/05/3-d-printed-gun-lawsuit-starts-war-arms-control-free-speech>.

36. <http://www.justice.gov/sites/default/files/olc/opinions/1981/07/31/op-olc-v005-p0230.pdf>.

37. <http://www.governmentcontractslawblog.com/2011/10/articles/export-controls/prison-time-and-export-controls-university-professors-case-illustrates-dangers-of-ignoring-export-compliance/>.

38. <http://www.governmentcontractslawblog.com/2011/06/articles/export-controls/new-itar-rule-on-transfer-of-defense-articles-to-dual-and-third-country-nationals-creates-substantial-new-compliance-obligations/>, “Criticisms of the Current Rule.”

39. <http://www.satellitetoday.com/publications/2008/07/01/itar-dilemma-finding-the-balance-between-regulation-and-profit/>.

40. <http://www.ncbi.nlm.nih.gov/books/NBK100319/>, see section on “The Growth of Foreign Research Centers of U.S. Multinationals.”

The costs of ITAR information restrictions would be justified if it truly protected information that needs to be kept secret. The Department of State views the restrictions as a “classified life” system, with less onerous control mechanisms compared to the security apparatus that implements our classification system. The security laws, however, are very clear: if the material is classified, it must be handled in specific ways. There is a high degree of confidence (and empirical evidence) that it will not be transferred to those ineligible to receive it. Only those dealing with classified information must be concerned with the rules for handling classified information, and the decision as to what is classified is up to original classification authorities. ITAR information, on the other hand, is of concern to everyone who comes into contact with information that might relate to any of a long list of systems and technologies with military applicability. The burden of dealing with ITAR may be only one-fourth of the burden of dealing with, say, information classified at the confidential level per person. But the burden may fall on a hundred times as many people, and thus cost society many times more than simply classifying the information.

**Many of the same problems that triggered the Executive Branch's 2009 Export Control Reform still exist and continue to jeopardize U.S. national security and economic interests.**

## CONCLUSIONS

**Companies need to be specialized to appropriately deal with the ITAR and are restricted in their talent pool, limiting the diversity of companies that can contribute to national security objectives, U.S. tax revenue, and technological advancement.**

The ITAR is collapsing from excessive bureaucracy. Beginning in 1976 as a heavy-handed attempt to restrict both transfer of physical munitions and disclosure of information about munitions, the subsequent introduction of thousands of amendments turned ITAR into a monstrosity of complexity that typifies regulation gone amuck. In order to remain profitable and work with defense articles, companies have had to optimize their organizational structure to properly comply with ITAR regulations. This cultivates a company structure set-up to strictly abide by ITAR rules, and it prevents newer, innovative companies from entering the defense market on a level playing field. Not only is it collapsing because it is unwieldy, it is also outmoded in its attempts to restrict the flow of information. The United States has handicapped itself and its industries by allowing regulations to restrict who we can hire and who wants to do business inside our borders. The United States is putting itself at a disadvantage by losing tax revenue and access to companies, technology, and talent by implementing such restrictive regulations.

**The current Export Control Reform effort started in 2009 has been unsuccessful in mitigating and/or correcting the impacts and problems caused by the ITAR as it intended to do.**

Due in large part to inefficiencies in the U.S. regulatory system, the reform effort has been unable to adequately respond to the serious national security and economic impacts the ITAR is having on the United States. There are complex regulatory processes surrounding ITAR whereby restrictions

are updated and lists are examined and modified. The informal rulemaking process codified by the Administrative Procedure Act that was used to implement the Export Control Reform effort failed to ensure significant stakeholder involvement during the development of the reform regulations and policies. Congress regularly passes laws calling for updates to the regulations, which are then assembled in amendments. In 2010, an interagency review determined that the overall export control system in the United States is, to put it politely, a mess.<sup>41</sup> Reportedly, the review said that the current system is “overly complicated,” redundant, and “in trying to protect too much, diminishes our ability to focus our efforts on the most critical national security priorities.”<sup>42</sup> Secretary Robert Gates said that the system is a “byzantine amalgam of authorities, roles, and missions scattered around different parts of the federal government.”<sup>43</sup> In many cases, this led to the new regulations having the opposite effect on industry and academia as they were designed to have.

There is an ongoing debate among government, commercial, and academic stakeholders about the impact of ITAR on domestic innovation and S&T research. While ITAR protects national security by safeguarding military technologies and research, it also damages national security by discouraging U.S. companies from investing in defense technologies. ITAR allows foreign defense companies to make large profits because there is minimal U.S. competition in the international arms market. Additionally, ITAR's complicated compliance requirements hurt small businesses and favor big defense contractors. Accordingly, the President's administration announced its Export Control Reform (ECR) Initiative in 2011.<sup>44</sup> The result has been a flurry of Federal Register notices and ongoing reviews of each of the 21 categories of the USML.<sup>45</sup> Reform of each category is subject to public comment, and categories and other reforms are being addressed incrementally, as documented by the government's export.gov website.<sup>46</sup> While President Obama's ECR Initiative prompted the first major review of the USML since ITAR was created in the 1970s, there are still major concerns from industry about the impact of ITAR on S&T research.

Reforms are being pursued slowly and methodically, with incremental updates to the current structure of the ITAR Empire. Commenting on the ECR Initiative, the U.S. Chamber of Commerce observes that the “the U.S. export controls regime has long covered too many products that lack a significant military application or are readily available from other countries. The United States should eliminate controls that serve no real security purpose.”<sup>47</sup> That does not seem to be happening. Instead, some categories are being updated, and lists are being consolidated and made easier to access. However, information in 21 categories will still be restricted.<sup>48</sup> The well-meaning reform initiative, which has plodded along for six years at this point, has devolved into tweaking of vague descriptions of poorly understood technologies that support a grotesque framework of patched-together regulations and misguided directives. It is easy to complain about the many bureaucratic layers that are embedded in ITAR. The complexity is such that observance of ITAR is

41. [http://export.gov/ecr/eg\\_main\\_047329.asp](http://export.gov/ecr/eg_main_047329.asp).

42. Quoted from <http://www.acc.com/legalresources/publications/topten/Export-Control-Reform.cfm>.

43. Secretary of Defense Robert M. Gates, speech before the Business Executives for National Security, April 20, 2010, available at <http://www.defense.gov/speeches/speech.aspx?speechid=1453>.

44. <http://www.export.gov/ecr/>.

45. <https://www.pmdtfc.state.gov/ECR/index.html>.

46. [http://export.gov/ecr/eg\\_main\\_043652.asp](http://export.gov/ecr/eg_main_043652.asp).

47. <https://www.uschamber.com/issue-brief/modernize-export-controls>.

48. The unofficial updated USML is at <http://www.ecfr.gov/cgi-bin/text-idx?SID=86008bdfdd1fb2e79cc5df41a180750a&node=22:1.0.1.13.58&rgn=div5>; the unofficial CCL maintained by the Bureau of Industry and Security of the Department of Commerce is at <https://www.bis.doc.gov/index.php/regulations/export-administration-regulations-ear>. The official list is the annual baseline publication together with all amendments in the Federal Register.

rarely based on observation of its provisions, but rather out of fear of prosecution from inadvertent transfers. Further, its outdated provisions undermine its credibility as an effective tool for export control. The reform initiative will not change that reality.

**The current legislation in place does not adequately respect new advances in technology, national threats, or a 21st century economy.**

In addition to being a complex regulatory process with multiple government agencies involved and a large variety of stakeholders impacted, the ECR Initiative has been further hampered by inefficiencies in the U.S. regulatory system. Our current regulatory system is governed by the Administrative Procedures Act of 1946 (APA) and is also outdated and ineffective in achieving its goals. The shortcomings of the ECR Initiative in adequately responding to the serious national security and economic impacts the ITAR are having on the United States is one symptom in a larger regulatory framework issue. Changes in foreign policy and the globalization of business make the extant ruleset irrelevant and inappropriate in response to the current threat environment. Technology and business are adapting and advancing at a historical pace and it would be appropriate for legislation to advance with them.

As evidence of a regulatory system that is inefficient, we can look at some of the basic outputs and impacts of this system. The United States regulatory system has produced on average 1,848 final rule documents per year since 1976.<sup>49</sup> This means our bureaucratic system is producing approximately 23 times more rules than laws passed by our elected policymakers in Congress in the same amount of time. This has resulted in a Code of Federal Regulations that now consists of over 200+ volumes, 187,000+ pages of rules and would take an average reader almost three years to read end to end if they spent eight hours every day reading it. It seems likely the fact over 90%<sup>50</sup> of proposed regulations eventually get codified has helped create an output where there is literally no way for any one person to comprehend the true nature of our regulatory system. To make matters worse, due to the rapid changes advances in S&T are creating in society, many of today's agencies not only struggle to pass regulations in a timely manner, they often cannot even decide who has jurisdiction to even regulate.<sup>51</sup> The ITAR is one such area we see this occurring. Finally, the estimated cost of compliance with these mountains of regulations is estimated to be around a billion dollars or more per year (similar to the expected benefits) but the methods for determining these things are lacking.<sup>52</sup> Overall, the conclusion is the system is producing more rules than we can comprehend and is having huge impacts on society that are difficult to quantify and evaluate. Clearly such a system is ill-equipped to provide appropriate rules in today's fast-changing world.

The APA<sup>53</sup> is the policy that dictates how federal regulators are supposed to design, manage and enforce regulations. The DDTC had to follow the processes outlined in the APA to implement the reform changes to the ITAR. This process failed to ensure significant stakeholder involvement during the development of the reform regulations and policies for a variety of reasons. For one, the

49. <https://www.federalregister.gov/>.

50. Unpublished research from the Regulatory Science & Engineering Center study on the impacts of the U.S. regulatory system.

51. <http://www.synbioproject.org/publications/dna-of-the-u.s-regulatory-system/>.

52. <http://www.nam.org/Data-and-Reports/Cost-of-Federal-Regulations/Federal-Regulation-Full-Study.pdf>.

53. As well as several other amendments and Executive orders (see Appendix I).

process fails to ensure that those involved with designing regulations appropriately understand the changes and impacts proposed regulations would have on the regulated community. In many cases with respect to the ETC effort, this led to the new regulations having the opposite effect on industry and academia as they were designed to have. Additionally, the current regulation for Category 11 items on the MISL (military electronics) had to undergo two proposed rule changes where the first change took over a year. These points highlight that the current process by which the ITAR reform effort is implemented through is an inefficient means to achieve a rapid change, as hypothesized by the NAS 2009 study.

**The Export Control Reform started in 2009 has been unable to produce the results it set out to achieve indicating that Congressional action, instead of Executive action, is needed address the problems associated with the ITAR.**

The conclusion is that ITAR must be completely rescinded. Reforming ITAR will not fix its flaws. Its categories and lists cannot be kept current at the rate required to be rational. By confounding systems and information, ITAR has become an impediment to the development of technology, thereby threatening to upend U.S. dominance in technical areas that are relevant to national security. By attempting to protect information from communication – even in lectures and email correspondence – ITAR has allowed information that should be classified to remain unclassified. Furthermore, through intimidation it restrains legitimate research and collaboration, including among U.S. persons, which are vital to our economic and security future.

To truly control the trafficking in arms, we need to pass and enforce laws that control foreign arms sales, based on specifying specific systems. When component technology needs to be protected, the information required to make that component should be classified. Thus export of systems with sensitive component technology should be controlled by means of security laws. When information needs to be protected from disclosure because it could harm our national security, that information should be classified at the appropriate level.

These are common-sense steps that would greatly benefit our national security and economic prosperity. The decline and fall of the ITAR Empire is well underway and inevitable; let us not allow its obsolescence to crumble our country, too.

## RECOMMENDATIONS

### **The threat environment has changed from 1976, but the legislation has failed to keep pace.**

Reform of ITAR and the export control system is laudable, but happening at a pace that is slower than the pace of technology. The reform initiative has already failed to achieve change rapidly, as was intended and suggested by the 2009 NAS study. It is time to remove the burden of the ITAR and contemplate more effective means of achieving national security interests. Additionally, the influx of businesses eager to capitalize on an ITAR-free United States will strengthen our economy with increased tax revenue.

ITAR is outdated. By trying to control information dissemination in addition to the export of physical systems, it has failed to adapt to an environment where technology changes rapidly, is nearly always of multiple use, and has near-instantaneous reach anywhere on Earth. The inefficient regulation process hinders innovative creation and free flow of technologies.

To control the export of physical systems, the legislation, treaties, and authorities that fund the development of the systems (i.e., the Department of Defense) can readily ensure that weapons do not fall into the wrong hands.

In order to control information flow, there is an existing system. The existing system actually works, as opposed to a poorly contrived ITAR system that attempts to limit the flow, but in fact may facilitate theft or adversarial development of information. The system that works is based on the security law of 1947 and its implementing regulations.<sup>54</sup> When information is classified, it is generally kept within channels for a long time, and works to protect the information. ITAR restrictions, on the other hand, most likely offer no protection at all.

Indeed, when we secure ITAR information on unclassified systems that are bundled and marked as ITAR, there is a sense in which we have enticed others by affixing a "steal me here" label.

Security laws include a level of classification called "Confidential," which is defined as material that would damage national security if disclosed. These laws also acknowledge other forms of restrictions, such as "Controlled Unclassified Information," "Restricted," and "For Official Use Only." Major defense acquisition projects have "program protection plans" that include protocols to protect design information. It would seem that security laws have sufficient mechanisms to protect information, if only that information were assessed and labeled at its creation. ITAR provides an excuse to forego appropriate classification of technical information, which results in the lack of protection to a substantial amount of data that should be protected using the classification system.

If we classify technical data that is currently labeled as ITAR, then only those with appropriate security clearances will be able to access and work on the technology. Right now, a U.S. security

54. Cambone, Stephen A. "The National Security Act of 1947—26 July 1947." A New Structure for National Security Policy Planning. Washington, D.C.: CSIS, 1998. 228-32.

clearance is only available to U.S. citizens, and not U.S. persons. (However, the background check required for a position of “Public Trust” might suffice for non-citizens.) Further, material can only be classified if its disclosure will cause harm to U.S. national security. Whether these are the appropriate criteria to ensure security is a matter for the security apparatus. Central to this argument is that there already exist constitutional and effective means of protecting information without a burdensome and cumbersome ITAR.

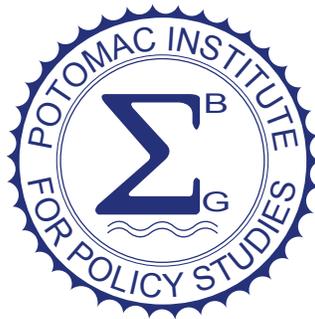
Of course, the best defense is one where we possess the best weapons and best technology, and maintain dominance by adapting, updating, developing, adopting, and integrating new technologies faster and more efficiently than any other nation. Rather than facilitating our dominance, ITAR has become a burden to our advancement. Removing regulations that are complicated and burdensome to industry will promote a larger diversity of companies in the defense market. Further assistance to new small businesses will incentivize innovation in selecting defense contractors. By removing ITAR, U.S. companies will be able to access the global workforce talent and recruit the best and brightest to innovate and strengthen U.S. national security interests.

**We should classify at appropriate levels that information that should be protected, and permit open and widespread collaboration on topics where it benefits us to stay current. By focusing on the most important technologies for national security, the government promotes business growth in non-vital sectors while protecting our interests in advancements that protect our borders and people. A balance between commercial productivity and technological secrecy are necessary for upholding our national security and ensuring that the U.S. remains at the forefront of innovation.**

**Congress needs to enact new enabling legislation that rescinds the ITAR.**

## APPENDIX A: ABOUT THE POTOMAC INSTITUTE FOR POLICY STUDIES (PIPS) AND THE REGULATORY SCIENCE AND ENGINEERING CENTER (RSEC)

**The Potomac Institute for Policy Studies** is an independent, 501(c)(3), not-for-profit public policy research institute. The Institute identifies and aggressively shepherds discussion on key science, technology, and national security issues facing our society. The Institute hosts academic centers to study related policy issues through research, discussions, and forums. From these discussions and forums, we develop meaningful policy options and ensure their implementation at the intersection of business and government. The Institute remains fiercely objective, owning no special allegiance to any single political party or private concern. With over nearly two decades of work on science and technology policy issues, the Potomac Institute has remained a leader in providing meaningful policy options for science and technology, national security, defense initiatives, and S&T forecasting.



**The Regulatory Science and Engineering Center (RSEC)** at the Potomac Institute for Policy Studies is a definitive source of information on developing and implementing regulatory policy based on science and technology. RSEC builds and maintains a comprehensive library of knowledge regarding the science behind making regulatory policy and the history that created the foundations of our current regulatory practices. Additionally, RSEC serves as a resource center for all individuals or organizations that attempt to practice regulatory science by establishing various tools and processes that can assist in the practice of using science and technology in developing regulations and regulatory policies. Taken together, the basic mission of RSEC is to communicate best practices of regulatory science and engineering for the development of regulation and regulatory policy to government agencies, academia and industry, and develop new tools, standards and approaches to designing, implementing, and managing regulations and regulatory policy.



## APPENDIX B: LITERATURE REVIEWED

- AIAA. 2009. "The Impact of Export Controls on the Domestic Aerospace Industry: an AIAA Information Paper." *Aiaa.org*.
- Brotherton, Steven. 2012. "Beyond Reach? How to Develop ITAR-Free Systems." *WorldECR*, July, 1–5.
- Burnett, James C. 2014. "The Logistics of Export Control Reform." *The Air Space Lawyer* 26 (4): 1–5.
- Buyuksakayan, Serdar. 2015. "Case Study: ITAR Export Control Compliance Results in \$4 Million Annual Cost Savings for Global Manufacturer." *Digitalguardian.com*. February 28. <https://digitalguardian.com/blog/case-study-itar-export-control-compliance-results-4-million-annual-cost-savings-global>.
- Center for Strategic & International Studies. 2008. "Briefing of the Working Group on the Health of the U.S. Space Industrial Base and the Impact of Export Controls." In.
- Defense Trade Law Blog. 2015. "Export Control Reform: ITAR Amendments Undermine Key DoD Acquisition Goal." March 18. <http://defensetradelaw.com/2015/03/18/changes-undermines-key-dod-acquisition-goal/>.
- Dwyer, Morgan, Gwen Gettcliffe, Whitney Lohmeyer, Annie Marinan, Erik Stockham, Annalisa Wiegel, and Kerri Cahoy. 2012. "The Global Impact of ITAR on the For-Profit and Non-Profit Space Communities." *International Astronautical Federation*, May, 1–35. [http://kcahoy.scripts.mit.edu/kcahoy/wp-content/uploads/2013/02/student\\_paper-The-Global-Impact-of-ITAR-on-the-For-Profit-and-Non-Profit-Space-Communities.pdf](http://kcahoy.scripts.mit.edu/kcahoy/wp-content/uploads/2013/02/student_paper-The-Global-Impact-of-ITAR-on-the-For-Profit-and-Non-Profit-Space-Communities.pdf).
- Edquist, Mary I, and Chad Arfons. 2015. "New Export Control Reforms Could Impact R&D Efforts at Your College or University." *Mcdonaldhopkins.com*. July 15. <http://www.mcdonaldhopkins.com/alerts/business-law-export-control-reform-impacts-RD-colleges-and-universities>.
- Ford, Michael. 2014. "How ITAR Regulations Affect Your Industry & Your Business." In. <http://www.bdpinternational.com/wp/wp-content/uploads/How-ITAR-regulations-affect-your-industry-March-2014-Michael-F.pdf>.
- Henry, Caleb, NewSpace Global Analysts. 2013. "From Reform to Revenue: the Impact of Amending ITAR on NewSpace Markets." March 29. <http://bigthink.com/above-the-clouds/from-reform-to-revenue-the-impact-of-amending-itar-on-newspace-markets>.
- Herdem Law Firm. 2014. "U.S. Defense Industry: the Impact of ITAR for the Business." *Herdem.Av.Tr*. June 13. <http://herdem.av.tr/defense-industry-impact-itar-business/>.
- Herdem, Safak. 2014. "U.S. Defense Industry: the Impact of ITAR for the Business." *Mondaq.com*. July 3. <http://www.mondaq.com/turkey/x/320640/Terrorism+Homeland+Security+Defence/US+Defense+Industry+The+Impact+Of+ITAR+For+The+Business>.
- Hummel, Robert. 2015. "The Decline and Fall of the ITAR Empire." *Steps*, November, 1–8.
- Levine, Justin. 2012. "Reevaluating ITAR: a Holistic Approach to Regaining Critical Market Share While Simultaneously Attaining Robust National Security." *University of Miami National Security and Armed Conflict Law Review* 2 (1): 1–22.
- Long, Clinton. 2013. "An Imperfect Balance: ITAR Exemptions, National Security, and U.S. Competitiveness" 2 (1): 43–64. [http://www.nslj.org/pdfs/2\\_NatlSecLJ\\_43-64\\_Long.pdf](http://www.nslj.org/pdfs/2_NatlSecLJ_43-64_Long.pdf).
- McHale, John. 2015. "Export Reform Impact on Defense Electronics Suppliers." April 9. <http://mil-embedded.com/3679-export-reform-impact-on-defense-electronics-suppliers/>.
- National Research Council. 2009. *Beyond "Fortress America": National Security Controls on Science and Technology in a Globalized World*. Washington, D.C.: National Academies Press. doi:10.17226/12567.
- Office of Technology Evaluation, Bureau of Industry and Security, U.S. Department of Commerce. 2014. "U.S. Space Industry 'Deep Dive' Assessment: Impact of U.S. Export Controls on the Space Industrial Base." *Bis.Doc.Gov*.
- Shotwell, Chuck. 2015. "ITAR Reform: Impact on Lasers, Electro-Optics, & Night Vision Devices."
- Spurlock, Kimberly. 2008. "ISO 9001 and the Impact of ITAR/EAR." *Mygcat.com*. <http://mygcat.com/iso-9001-and-the-impact-of-itarear/>.
- Stonedale, Joel. 2015. "How the State Department's Proposed Arms Trafficking Rules Could Impact You." July 31. <http://dailycaller.com/2015/07/31/how-the-state-departments-proposed-arms-trafficking-rules-could-impact-you/>.
- U.S. Government Accountability Office. 2002. *Export Controls: Rapid Advances in China's Semiconductor Industry Underscore Need for Fundamental U.S. Policy Review*.
- U.S. Government Accountability Office. 2005. *Defense Trade: Arms Export Control System in the Post-9/11 Environment*.
- U.S. Government Accountability Office. 2006a. *Information Sharing: the Federal Government Needs to Establish Policies and Processes for Sharing Terrorism-Related and Sensitive but Unclassified Information*. Gao.Gov.
- U.S. Government Accountability Office. 2006b. *Export Controls: Agencies Should Assess Vulnerabilities and Improve Guidance for Protecting Export-Controlled Information at Companies*.
- U.S. Government Accountability Office. 2007. *Federal Research: Policies Guiding the Dissemination of Scientific Research From Selected Agencies Should Be Clarified and Better Communicated*.
- U.S. Government Accountability Office. 2009. *Military and Dual-Use Technology: Covert Testing Shows Continuing Vulnerabilities of Domestic Sales for Illegal Export*.
- U.S. Government Accountability Office. 2012. *Export Controls: U.S. Agencies Need to Assess Control List Reform's Impact on Compliance Activities*.
- Van Atta, Richard, Mark Bittmann, Paul Collopy, Bradley Hartfield, Bruce Harmon, Marshall Kaplan, Nicolas Karvionides, et al. 2007. *Export Controls and the Defense Industrial Base*.
- Zelnio, Ryan J. 2006. "Determining the Effects of ITAR Regulation on the Commercial Space Manufacturing Sector." <http://archive.cspo.org/igscdocs/Ryan%20Zelnio.pdf>.

## APPENDIX C: WORKSHOP PROGRAM

# AGENDA FOR RSEC ITAR WORKSHOP

July 27, 2015 – Arlington, VA, USA

### Topic: The Impact of International Traffic in Arms Regulations (ITAR) on National Science and Technology Research

The Department of State's International Traffic in Arms Regulations (ITAR) controls the export of defense articles. The goal of ITAR is to maintain the United States' edge in defense technology and safeguard national security by denying advanced military technologies to potential foreign adversaries. In order to achieve this goal, ITAR restricts the ability of companies to develop and export technologies with potential military use and limits the ability of researchers to collaborate with international partners and share technical information. The State Department's most recent ITAR amendments attempt to address concerns about the impact of ITAR on domestic innovation, but there is an ongoing debate among commercial, government, and academic stakeholders about the impact of ITAR on national security and science and technology research.

This workshop aims to discuss the ITAR's impact on domestic science and technology research, foreign defense capabilities, and national security. The distinguished participants in this discussion will provide insight on their experiences with ITAR and its current ability to deter foreign adversaries from obtaining advanced military technologies. We hope that this workshop will lead to a beneficial discussion on the current effects of ITAR and implications for reform.

#### Participating Guests:

- **Michael Swetnam**, CEO, Potomac Institute for Policy Studies (PIPS)
- **General Alfred Gray**, 29th Commandant of USMC (Ret), Senior Fellow & Chairman of the Board of Regents, PIPS.
- **The Honorable John Young**, former Under Secretary of Defense for Acquisition, Technology & Logistics, Senior Fellow & Member of Board of Regents, PIPS
- **The Honorable Lee Buchanan**, President & CEO, Arete Associates, former Assistant Secretary of the Navy Research, Development & Acquisition, Member Board of Regents, PIPS.
- **Christopher Stagg**, Partner, Noonan LLP (Former DoS employee, wrote ITAR amendments)
- **Sarah Heidema**, Division Chief of Regulatory Affairs, DDTC
- **Dr. Robert Hummel**, Chief Scientist and VP of Research, PIPS
- **Dr. Mike Fritze**, Senior Research Fellow, PIPS
- **Dr. Alan Moghissi**, Senior Fellow & Member of Board of Regents, PIPS
- **Dr. Charles Mueller**, Director RSEC, PIPS
- **Dr. Jennifer Buss**, Director CNS and CReST, PIPS
- **Richard Pera**, Research Associate, PIPS
- **Josh Eisenberg**, RSEC intern, PIPS

**Agenda:**

<b>12:00 PM - 12:05 PM</b>	Opening Remarks - Mike Swetnam
<b>12:10 PM - 12:30 PM</b>	Introductions
<b>12:30 PM - 2:00 PM</b>	Round Table Discussion
<b>2:00 PM - 2:15 PM</b>	Break
<b>2:15 PM - 2:55 PM</b>	Informal Discussion of Findings and Policy Recommendations
<b>2:55 PM - 3:00 PM</b>	Concluding Remarks

**Round Table Questions:**

- Does the United States Munitions List protect technologies in which the U.S. does not have a substantial technological lead?
- What is the impact of current regulations and proposed amendments on commercial, government, and academic stakeholders involved in science and technology research? What are the national security implications of these effects?
- Many domestic firms in the science and technology sectors focus their resources on non-defense technologies to avoid overregulation. To what extent does ITAR discourage companies from doing defense work? Are there known cases where companies have stopped doing defense work because of ITAR?
- How does ITAR impact foreign development of military technologies? Do current regulations and proposed amendments debilitate foreign defense capabilities or increase the profits and resources of foreign weapons manufacturers?
- Are there known cases where ITAR violations with respect to technical information that have threatened U.S. national security?
- To what extent could the success of ITAR be jeopardized by cyber threats?

The Potomac Institute for Policy Studies is an independent, 501(c)(3), not-for-profit public policy research institute. The Institute identifies and aggressively shepherds discussion on key science and technology issues facing our society. From these discussions and forums, we develop meaningful science and technology policy options and ensure their implementation at the intersection of business and government.

## APPENDIX D: SEMINAR PROGRAM

### A Luncheon Seminar on STUMBLING OVER ITAR: HOW DOES INDUSTRY COPE WITH THE REGULATIONS?

Tuesday, December 1, 2015

12:00 PM - 2:00 PM

Born out of the Arms Export Control Act (AECA) of 1976, the International Traffic in Arms Regulations (ITAR) authorizes the Executive Branch to control exports of "defense articles and services." While a list of items and information regulated under ITAR are enumerated in the U.S. Munitions List (USML), interpretation is difficult and often includes ambiguous categories that reach deep into supply chains and research areas. Essentially, every U.S. person is expected to understand the USML and export restrictions to prevent transfer of ITAR technical information to a non-U.S. person. ITAR places the burden on the developer possessing information rather than on the government who wants to protect the information.

This seminar is part of the 2015 Regulatory Science & Engineering Symposia Series, an initiative of the Potomac Institute's Regulatory Science & Engineering Center. The series is intended to provide a forum to discuss the United States Federal rulemaking process in order to develop a clearer understanding for how it works, the assessment criteria used during it, the impact it has on society, and importantly its effectiveness at changing society's behavior for the better. This seminar will assemble leaders in ITAR-regulated industries and government officials who implement these policies. We will discuss the benefits and barriers created by ITAR and determine if, and how, its goals can be achieved while maintaining an environment conducive to industry innovation. A distinguished panel will examine ITAR's implementation, its pitfalls and advantages, and potential alternatives. By creating an environment where industry and government can discuss these issues candidly, we seek to instigate positive change to better serve the goals on which ITAR was originally founded.

PROGRAM	
12:00 PM <b>Welcome &amp; Opening Remarks</b>	<b>Dr. Robert Hummel</b> , Chief Scientist, Potomac Institute for Policy Studies
12:05 PM <b>Keynote Address</b>	<b>Ms. Lindsay Meyer</b> , a Managing Partner of Venable, LLP
12:35 PM <b>Participant Introductions</b>	<b>Dr. Charles Mueller</b> , Director, Regulatory Science and Engineering Center, Potomac Institute for Policy Studies
12:40 PM <b>Panel Remarks</b>	<b>Ms. Lindsay Meyer</b> , Managing Partner, Venable, LLP
	<b>Ms. Candace Goforth</b> , Founder and Managing Director, Goforth Trade Advisors
	<b>Ms. Peggy Evans</b> , Senior Fellow, Potomac Institute for Policy Studies
1:30 PM <b>Discussion</b>	1:55 PM: Concluding Comments

The Potomac Institute for Policy Studies is an independent, 501(c)(3), not-for-profit public policy research institute. The Institute identifies and aggressively shepherds discussion on key science and technology issues facing our society. From these discussions and forums, we develop meaningful science and technology policy options and ensure their implementation at the intersection of business and government.

## SPEAKER BIOGRAPHIES

### **Ms. Lindsay Meyer**

**Managing Partner, Venable, LLP**

Lindsay Meyer is Co-Managing Partner of Venable and heads the International Trade Practice, assisting sophisticated companies to efficiently import and export under U.S. laws and regulations. As a licensed U.S. Customs broker, Ms. Meyer has a detailed knowledge of and extensive experience with the regulations of the U.S. Bureau of Customs and Border Protection. She is also co-chair of Venable's FCPA and Anticorruption Practice.

For over twenty-five years, Ms. Meyer has provided International Trade and Customs advice at Venable where she heads Venable's International Practice based in Washington, DC. Ms. Meyer concentrates on all aspects of International Trade and Customs matters. She regularly advises companies on their compliance with import and export control laws and regulations, and appears before numerous regulatory authorities such as the U.S. Customs and Border Protection (CBP), International Trade Commission (ITC), Commerce Department's Bureau of Industry and Security (BIS), State Department's Directorate of Defense Trade Controls (DDTC), Treasury Department's Office of Foreign Assets Control (OFAC), and the Committee on Foreign Investment in the United States (CFIUS).

Ms. Meyer has extensive experience counseling companies on compliance with export controls regulated by BIS, DDTC, and OFAC and actively assists companies in their registration and license authorization needs for exports, re-exports and deemed exports. She guides companies through internal Export Control Assessments, helps develop tailored compliance policies and procedures, and performs training on export laws and regulations affecting a company. Additionally, Ms. Meyer has successfully defended exporters facing civil and criminal investigations for alleged violations of U.S. export control laws and embargoes.

Concerning import transactions, Ms. Meyer routinely represents companies during U.S. Customs Focused Assessments, NAFTA Audits, C-TPAT and ISA Programs, and defends clients during detentions, forfeitures, seizures, civil and criminal investigations, and other Customs-related matters. She regularly provides strategic customs and trade counseling to Fortune 100 clients by conducting Pre-Assessment Compliance Reviews including corporate-wide, multi-location assessments and training programs, and by representing companies before CBP, such as in Customs protests and Buy American Act rulings, and on appeal to the U.S. Court of International Trade and U.S. Court of Appeals for the Federal Circuit.

For many years, Ms. Meyer has also successfully represented companies in trade remedy actions alleging infringement of intellectual property rights, as well as antidumping duty and safeguard investigations and reviews before the U.S. Department of Commerce, International Trade Commission, and on appeal.

Ms. Meyer also advises clients on international transactional matters, where she counsels on strategic sourcing, targeted acquisitions Helms-Burton analysis, CFIUS investigations and FOCI reviews; sales and distribution arrangements in the United States and abroad; the use of foreign agents, affiliated offices, joint ventures and teaming agreements; as well as compliance with antiboycott restrictions and anti-bribery laws, such as the U.S. Foreign Corrupt Practices Act (FCPA).

One of the distinctive advantages Ms. Meyer offers is her position as a licensed U.S. Customs broker. Another advantage she offers clients stems from her well-established relationships with counsel around the globe with whom she works on a regular basis. Ms. Meyer brings to her practice extensive years of experience in a multitude of trade matters and the ability to develop innovative solutions to complex legal issues. Ms. Meyer's clients include multinational manufacturers and service providers in the high technology, chemical, petrochemical, oil services, pharmaceutical, automotive, avionic, space control equipment, steel, food, retail industries, and not-for-profit organizations.

Significant recent matters have included counseling to and representation on behalf of several multinational companies before the United States and other Customs Services; conducting pre-audit assessments of import and export operations and procedures; developing and conducting compliance programs including corporate-wide, multi-location assessment and training programs; and general counseling on strategic sourcing methodologies. She regularly advised companies in the formation of foreign subsidiaries and representative offices; and conducting trade activities overseas. Other recent matters have included the successful defense of antidumping duty investigations and reviews before the U.S. Department of Commerce and International Trade Commission often resulting in findings of zero or minimal duties.

Ms. Meyer is active in business and trade associations related to her profession. She served four terms as Chair of the International Trade and Customs Committee for the American Bar Association's Section of Administrative Law and Regulatory Practice, is a member of the American Association of Exporters and Importers, and is serving in her second term on the Maryland-Washington District Export Council under the appointment of the Secretary of the U.S. Department of Commerce.

## **Ms. Candace Goforth**

### **Founder and Managing Director, Goforth Trade Advisors**

Candace Goforth is the Managing Director of Goforth Trade Advisors where she provides clients with strategic and practical day-to-day solutions involving defense trade and export controls. She is a subject matter expert on the International Traffic in Arms Regulations (ITAR) and the Export Administration Regulations (EAR).

Prior to establishing Goforth Trade Advisors, Candace served as the Policy Director in the Directorate of Defense Trade Controls at the U.S. Department of State, which is the authority for interpretation and implementation of the ITAR. As Director, Candace administered the Department of State's implementation of President Obama's Export Control Reform initiative and was intimately involved in the revision of the U.S. Munitions List and the Commerce Control List. Candace was also a key contributor in the drafting of the specially designed definition and the formulation of the transition plan.

Candace oversaw the Commodity Jurisdiction section which determines whether items are controlled on the U.S. Munitions List or Commerce Control List. Additionally, Candace managed revisions to the ITAR to include export policies related to Dual and Third Country Nationals and the Defense Trade Cooperation Treaties with the UK and Australia. The formulation of export licensing policies related to particular countries of concern was also under her purview.

Before serving as Policy Director, Candace was the Division Chief for the Emerging Technologies and Training Division in the Office of Defense Trade Controls Licensing and was charged with

the training of all new Licensing and Agreements Officers. This involved providing foundational instruction in the ITAR as well as in-depth training in the review and adjudication of export license applications, technical assistance and manufacturing license agreements. The foundational instruction included training on the commodity jurisdiction process, registration requirements, compliance and enforcement activities, and brokering. She was responsible for developing and publishing related internal and external guidance on export control policies.

## **Ms. Peggy Evans**

### **Senior Fellow, Potomac Institute for Policy Studies**

Peggy Evans retired from government in 2013 after 24 years' experience in intelligence and national security programs in CIA, the White House and the Senate. As the Budget Director for the Senate Select Committee on Intelligence from 2009 to 2013, Peggy developed thematic strategies for reviewing the roughly \$70 billion intelligence budget in anticipation of a period of declining resources. During her tenure, the SSCI passed four bills in succession that were signed into law, after a drought of five years with no authorization act.

From 2002 to 2009, Peggy founded and led companies that built green homes and provided environmentally sustainable consulting services to builders, facility managers and homeowners. She designed and developed homes on the Outer Banks and in the Washington, DC area. Her real estate company, Amour Properties, was EPA Energy Star-certified, and her homes were awarded the Green Home Choice designation in Arlington County.

Prior to her involvement in green building, Peggy worked for two years at Electronic Data Systems. She began as director for business development, after which she joined the Navy Marine Corps Intranet Program (NMCI). She served as director of strategy and then led the testing team that conducted and completed live operational testing, working jointly with the NMCI operational team, the customer bases and air stations, and experts from the Institute of Defense Analyses.

Her service at the Office of Management and Budget from 1995-2000 focused on budget and programmatic oversight of the intelligence community and of the Department of Defense, culminating in her assignment as Acting Deputy Associate Director for National Security. Her budgetary purview at the time exceeded \$300 billion.

During her 13 years at the Central Intelligence Agency starting in 1982, Peggy played many roles, including performing and managing analysis, operations, and covert action programs. Later assignment concentrated on strategic planning, organizational change, and programmatic development and prioritization.

## APPENDIX E: “STUMBLING OVER ITAR” SEMINAR TRANSCRIPT

### Dr. Charles Mueller

Good afternoon everyone. My name is Dr. Charles Mueller and I am the Director of the Regulatory Science and Engineering Center (RSEC) here at the Potomac Institute for Policy Studies. I would like to thank you all for coming out today for what I am sure is going to be a fantastic conversation about an important set of regulations impacting all of society. For 20 years, the Potomac Institute's mission has been to support policy influenced by good science, technology, and rationalism, rather than policy influenced by personal beliefs and feelings. Good policy should come from good science. For 20 years, we have interpreted that to mean that the policy and laws that govern the United States should be based on rationalism, science, and technology. The Institute takes great effort to help legislators of the United States develop policy following those tenets. We support policy for better science and technology (S&T) and using S&T to help create better policy.

Recently, the Potomac Institute recognized that U.S. policy was becoming more regulatory than legislative in nature. As such, we formed the Regulatory Science and Engineering Center (RSEC). This center of excellence supports applying scientific principles, grounded in rational and logical thought, to the processes used to design, implement, enforce, and manage our regulatory process. Over the past year, RSEC has been engaged in a scholarly investigation of how regulations are developed and the underpinning legislation that dictates the process of developing regulations in the United States. During this investigation, we have focused on large sets of regulations that appear to have huge impacts on society. Our research suggests these regulations impacting society are not justified in rational, logical thought and need to be redone or thrown out entirely. During our investigation, we explored the impacts of a particular group of regulations – the International Traffic in Arms Regulations (ITAR). Today's seminar is about the impact of the ITAR on industry.

On our panel today, we have the best people here to talk about the issue. Our panel includes Ms. Lindsey Meyer, the Managing Partner at Venable LLP; Ms. Peggy Evans, a Senior Fellow at the Potomac Institute; and Ms. Candace Goforth, the Founder and Managing Director of Goforth Trade Advisors. Before I introduce them further, I would like to turn the floor over to Dr. Bob Hummel, the Potomac Institute's Chief Scientist, for some brief opening remarks about the topic we will be discussing. Dr. Hummel has worked with the ITAR issue for about 20 years and we welcome his input.

### Dr. Robert Hummel

Thank you, Charles. Thank you all for coming. On behalf of Mr. Michael Swetnam, the CEO of the Potomac Institute for Policy Studies, and General Al Gray, the Chairman of the Board of Regents of the Institute, I welcome you to the Institute. The Institute is a 501(c)3 not-for-profit, public policy research institute. The Institute's mission is to identify and shepherd discussions on key S&T issues facing society. The goal of these discussions and forums is to develop meaningful S&T policy options and ensure their implementation at the intersection of business and government.

Today, we are focusing on business and the International Traffic in Arms Regulations. Thank you Charles and RSEC for sponsoring this event, which is formally the second in a series of forums where we are discussing the ITAR and its impacts. This issue is of interest to the Potomac Institute as it is central to the interaction of business and government in terms of S&T.

I have been following ITAR since my university days and continued when working within government at DARPA. While at DARPA, I asked the general council to provide me with a deeper education about the origins of the ITAR. As such, when RSEC began researching this topic, I wrote an article published in the Potomac Institute's publication, *STEPS*. *STEPS* (Science, Technology, Engineering, and Policy Studies) is a scholarly magazine of which I am Editor-in-Chief. Articles in *STEPS* are not official positions of the Potomac Institute. *STEPS* is a bold, non-peer-reviewed, but carefully edited and reviewed, publication. Authors are encouraged to be bold and to take bold positions that might otherwise be watered down if they had to receive the approbation of one's peers. The article on ITAR published in the second issue of *STEPS* is a personal opinion of mine and my co-authors. In that article, I take the position that the ITAR is more harmful than good. That is my personal position and is not a starting position for our discussion today, but rather is intended to foster discussion on the topic as part of the Institute's mission. Today's discussion is focused on the impact of the ITAR on industry.

The original enabling legislation for the ITAR was enacted in 1976 with two benefits to the nation and to industry in mind.

- Prevent others from obtaining technologically important science and understanding, thereby bolstering the U.S. economy. We could continue to dominate in areas of technology and products and it was supposed to benefit industry by helping retain a dominant position in technology.
- Bolster national security by ensuring defense articles did not show up rapidly in adversarial domains. ITAR was supposed to engender a national security regime that keeps our country strong and benefits our industries.

The second benefit is a nuisance to industry because it says that they cannot sell defense articles overseas without a court license. The original intent of the law, and thus the enabling regulation, was to benefit the nation both economically and through national security. Today's discussion will help the Institute develop recommendations that steer things in a beneficial direction, while mitigating or getting rid of negative aspects of the regulation. Dr. Mueller, would you like to introduce our panelists and speakers? Thank you.

#### **Dr. Charles Mueller**

Thank you Dr. Hummel. It is with great pride and pleasure that I am able to introduce our first panelist, Ms. Lindsay Meyer. Ms. Meyer is a managing co-partner at Venable and heads the international trade practice, assisting sophisticated companies to efficiently import and export under U.S. laws and regulations. As a licensed U.S. Customs broker, Ms. Meyer has a detailed knowledge of, and extensive experience with, regulations of the U.S. Bureau of Customs and Border Protection. She is also the co-chair at Venable's Foreign Corrupt Practices Act (FCPA) and Anticorruption Practice. For over 25 years, Ms. Meyer has provided international trade and customs advice at Venable, based in Washington, DC. Ms. Meyer concentrates on all aspects of international trade and customs matters. She regularly advises companies on their compliance with import and export control laws and regulations, and appears before numerous regulatory authorities, such as U.S. Customs and Border Protection (CBP), International Trade Commission (ITC), Commerce Department's Bureau of Industry and Security (BIS), the Department of State's Directorate of Defense Trade Controls (DDTC), and the Committee on Foreign Investment in the United States (CFIUS). There are about two other pages of accomplishments that I could list to tell you how wonderful and qualified she is to talk about this issue. But rather than doing that, I will turn things over to Ms. Meyer and let her take it from here.

**Ms. Lindsay Meyer**

Thank you so much Dr. Mueller. My name is Lindsay Meyer, and I am delighted to be with you all today. I hope this is an interactive discussion and dialogue because that is more interesting. I know my panelists would agree as well.

Before we get into the true discussion, I want to make sure we are all starting from the same base understanding. I am going to set the table in terms of context before we get into the specifics and rolling out the business reality of how you deal with these laws and regulations.

The focus today is on the ITAR, which has been around for many years. Its original goals and intent were focused on economics and national security. If you look to the federal rulemaking process, you want to understand how it works, which is a focal point for the Institute. You want to understand the criteria that are used to assess the process. How does it work? Where is it not working well? You want to examine its impact on society. Most importantly, you want to analyze its effectiveness on implementing a positive change when the rubber meets the road. How can we best initiate a positive change to serve those original goals along with the ITAR and their current state of reform?

There are three basic agencies governing U.S. export control laws and regulations. These include the U.S. Department of State, U.S. Department of Commerce, and U.S. Department of Treasury. At the U.S. Department of State, the Directorate of Defense Trade Controls is the licensing arm, and the ITAR is the regulatory scheme that governs defense articles and defense services. These are the regulatory mechanisms for the “big things that go bang”, which are the most common items thought to be controlled with ITAR. However, there are also a lot of articles beyond the “big things that go bang” that are also controlled within the ITAR. The U.S. munitions list (USML) is the affirmative listing that governs the controlled items under the ITAR. If your article is not on the USML, then what else could be regulated? If it is something of U.S. origin or something in the United States, then it would be under the jurisdiction of the Commerce Department and the Bureau of Industry and Security (BIS), which has its own set of regulations – the Export Administration Regulations (EAR). The EAR governs almost everything else of a civil and/or dual use. This does not necessarily mean that these articles are controlled but rather these articles fall within the purview of the Commerce Department if they do not fall within Department of State's purview. I will show you some statistics later on this topic. Lastly, the Department of Treasury's Office of Foreign Asset Control (OFAC) governs sanctions and embargoes. Everyone is familiar with the longstanding embargoes on Iran and Cuba – which of late have seen some modifications – and then more recent ones, the Russia and Ukraine. While there are certainly others agencies involved in export control laws and regulations, like the Department of Energy's Nuclear Regulatory Commission, they do not play as significant a role as these main three departments. This is the broad framework we will use to discuss export controls.

In August 2010, the Obama Administration announced the need for and interest in export control reform (ECR). The current system was antiquated and had not necessarily kept up with technology development. The goal was to simplify and streamline the trade of controlled items with both NATO countries and our non-NATO allies, which sounds like a reasonable goal. In order to accomplish that goal, the tactic was to move those items that are less restricted but currently listed on the USML over to the Commerce Control List (CCL). This is theoretically a move from a strict, stringent control environment to a less strict, but still controlled environment under the Commerce Department. The phraseology that has been used to describe this notion is to place higher fences around a smaller number of U.S. “crown jewels” defense articles. The concept of

this export control reform was to implement the four “Singles”: a single control list, a single licensing agency, a single IT platform, and a single primary enforcement agency. Rather than having the USML, the CCL, and the sanctions list, there would be a single control list. The USML, the CCL, and the sanctions list would merge together into a Tier 1 level. Tier 1 would effectively be the defense articles, Tier 2 would be commerce, and so on. These tiers would stage the level of control to meet more of the demand and global need. That was the idea. We have advanced since then and it is interesting to see what has actually happened.

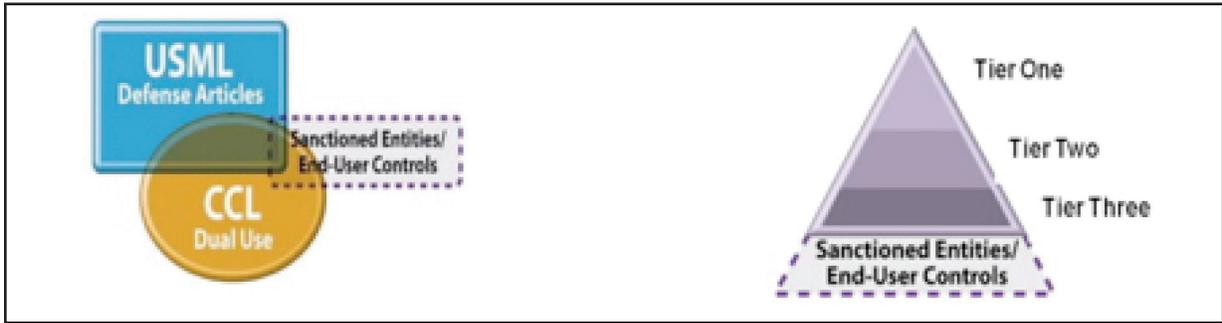


Figure 1: U.S. Export Control Reform Designs (<http://www.export.gov/ecr>).

The Obama Administration's intent was to spur exports to make U.S. industry globally competitive, which is similar to the original goals of the ITAR. Recent trade and export statistics from 2014 show modest gains on the export side since 2010 when the initiative was first announced. Conversely, an increase of imports has been more significant and we continue to see an influx of goods. We are seeing an increase in exports but to a lesser extent than the imports.

**Statistics of 2014 U.S. Trade with the World**

In 2014, the U.S. exports of goods to the world were \$1,620.5 billion, a \$42.1 billion (2.7%) increase from 2013; the U.S. imports of goods were \$2,347.7 billion, a \$79.3 billion (3.5%) increase; and the trade deficit of goods was \$727.2 billion, a \$37.3 billion (5.4%) increase.



Figure 2: Recent U.S. Statistics on U.S. Trade. Source: The U.S. Census Bureau Trade Statistics, July 2015.

Data from the recent Bureau of Industry Security (BIS) update provides a nice summary. Actual exports from the 2014 calendar year were \$1.6 trillion with \$1.5 trillion exported under no license requirement. At first glance, this seems fabulous and that controls must be nonexistent, but the reality is that the vast bulk of our exports are for shoes or boxes, which are not the strategic items for our purposes. If we break this down further, we see that within the licensed exports, \$59.4 billion were under a government license, comprising 3.7% of all exports. Perhaps that number would have been greater if our controls were less strict. Breaking these numbers down further you see the vast majority were licensed by State (\$35.2 billion) and \$16.1 billion were licensed by Commerce. However, the Commerce number is a bit of a misnomer as crude oil, a high value good, makes up \$12.3 billion comprising a large swath of what is being exported. Other bodies, such as the Office of Foreign Assets Control (OFAC) and the Nuclear Regulatory Commission (NRC), license the remaining \$8.1 billion. What we want to discuss are the controls that are licensed and most importantly the \$16.1 billion licensed by Commerce and the \$35.2 billion licensed by State.



Figure 3: 2014 U.S. Exports

Source: Bureau of Industry Security (BIS), Interagency Panel, Matthew S. Borman presentation.

We can also look at this differently broken down by ITAR licensed, ITAR exemptions, etc. (Figure 4). No License Required is what has been promoted as an increase in exports where no license is required under ITAR, but that masks the issue.

In 2014, \$59.4 billion (3.7% of the total U.S. export(s) was exported under a government license; \$37.2 billion (2.3%) was exported with a government license exception/exemption/agreement; and \$1.5 trillion (94.0%) was exported under the designation NLR.

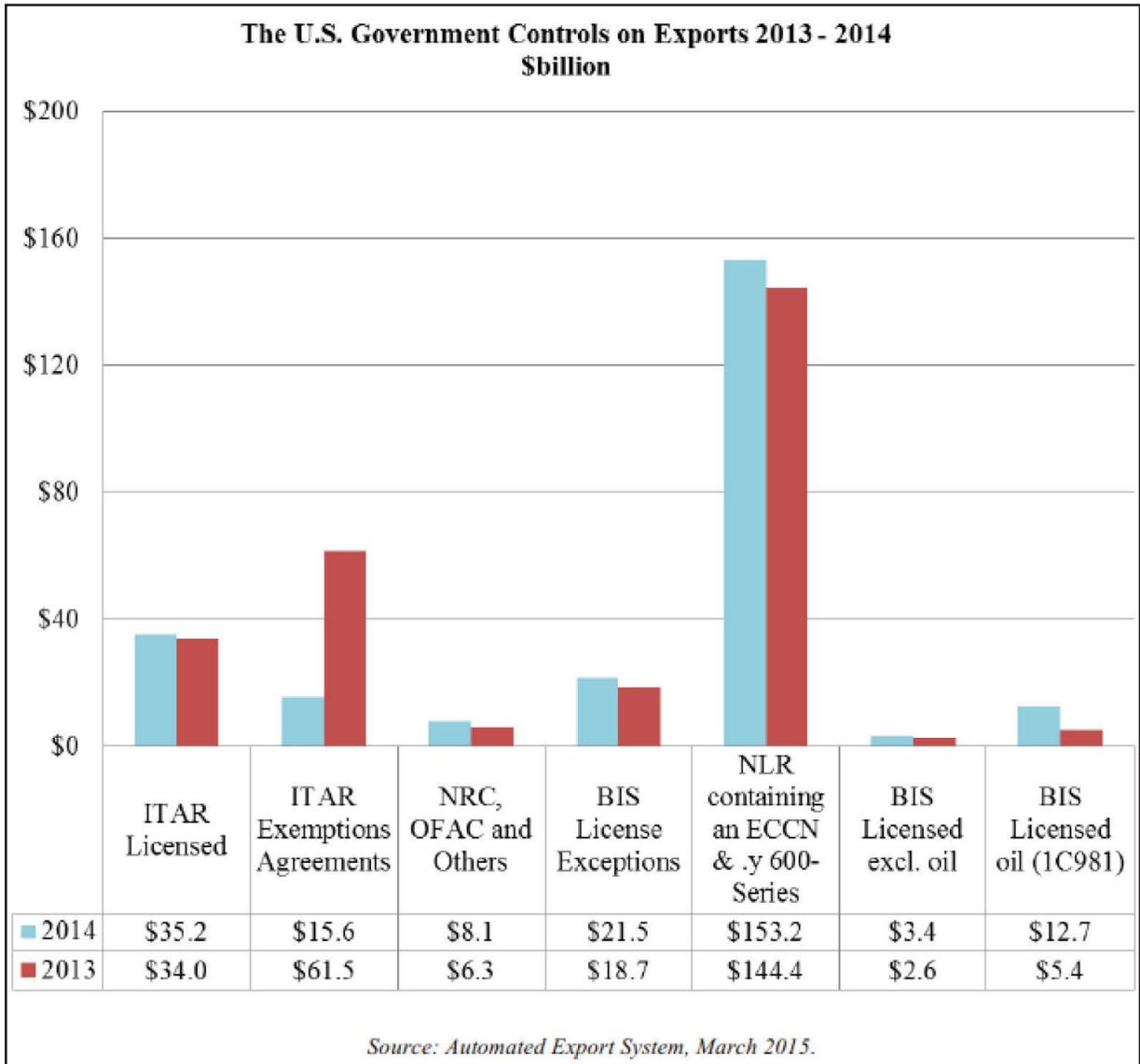


Figure 4: Composition of U.S. Exports. Source: Automated Export System, March 2015.

If we look at the \$37.1 billion of exports that are under a government license exception/exemption, businesses still have to undergo the whole analysis process. Businesses apply for an exception, an exemption, or an authorized agreement when possible, but they still have to complete the analysis because it is within the jurisdiction of the regulatory body. While technically not controlled because an exemption applies, the business still has a significant amount of analysis to perform. From the business perspective, that analysis cost is factored in similarly as if they get the license.

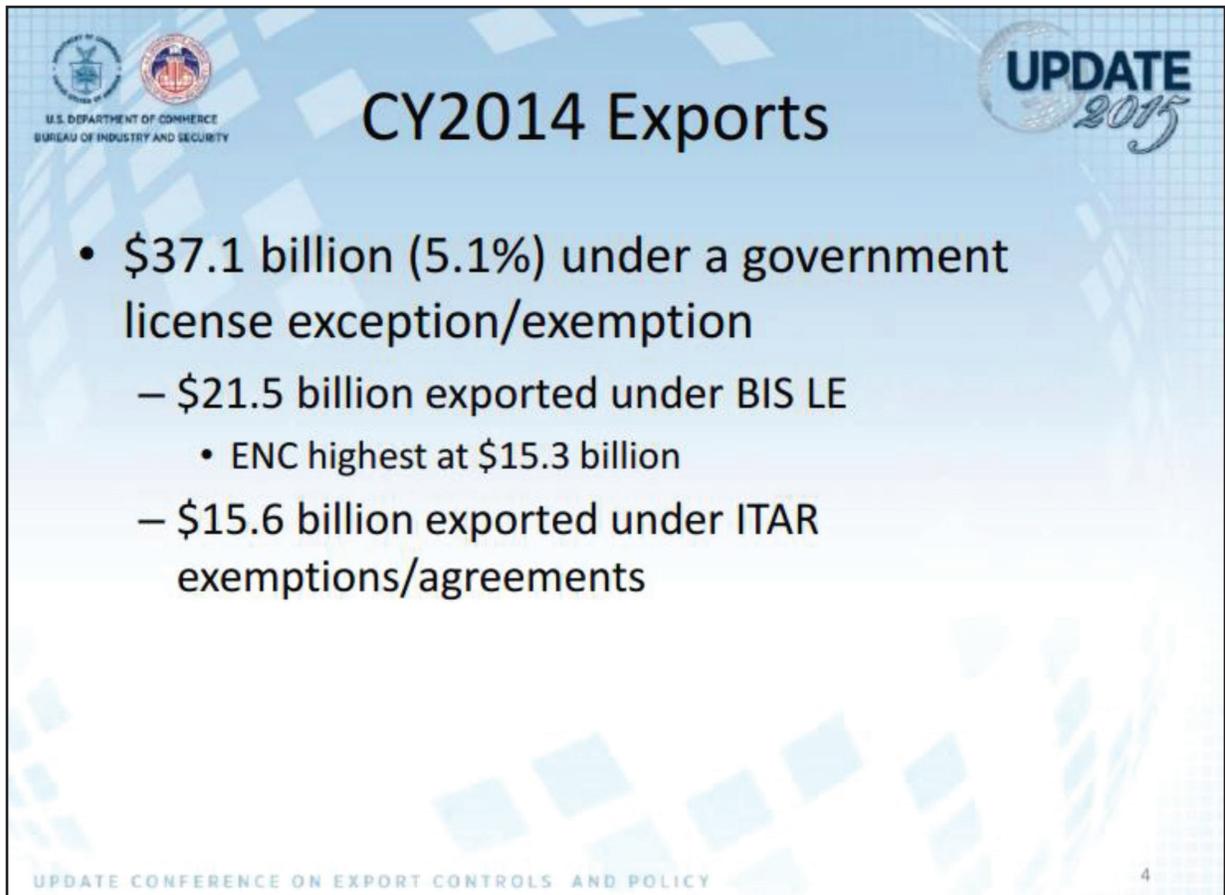


Figure 5: 2014 U.S. Exports.

Source: Bureau of Industry Security (BIS), Interagency Panel, Matthew S. Borman presentation.

If we step back and think about our initial goals and the four singles, where are we today? There are still three agencies. Both the State and Commerce Department have carefully analyzed each of the categories to determine where they can migrate, but we still have 21 categories on the USML. It was 21 categories before the reform effort and it is still 21 categories. Complexity has increased because the USML categories have migrated to the CCL under the 600 series, which is a special designation. These items were controlled by the State and are now controlled by the Commerce Department. The challenge is that there is a more complex analysis than previously. The Commerce regulations are more complicated than the ITAR and the USML. With commerce controls, you must consider who, what, when, and where. What is the article? Where is it going? Is there an exception? Does it fall within the specifications being controlled? It is a much more patchwork analysis. The process becomes more complicated for business and they cannot just look at whether an article is on the list or not. Businesses must get engineers involved and have a deep understanding of precisely what is controlled and why to figure out where the article can go. For example, one article might be able to go to France, but not India.

There are still multiple licensing agencies, so the single licensing agency is still not a reality. The export controls are more confusing than ever because one must determine which agency is the appropriate regulatory body for any given situation. It is a challenging environment. While the intent in August 2010 was correct, the most significant takeaway is that the President could

only take things so far. The President can make certain regulatory changes but in many respects Legislative changes are also necessary. We can work down the right path, but to have the full implementation of combined regulations requires Legislative modifications.

With the table now set, I would like to discuss how U.S. companies are facing global competition. What is our regulatory impact? Does the current model meet the changing business realities? This is what we want to discuss today and we want to hear your ideas and your thoughts on this issue. There has been a clear evolution in defense articles and technology data. From the U.S. perspective in which we are competing globally, there has been a trend of developing items that are ITAR-free – building things that do not include U.S. content and technology so that these rules and regulations do not come into effect. There is also an incentive for a U.S. entity with a non-U.S. operation to move overseas and not have the U.S. participation. Over the past years, these trends have evolved and are a mismatch to global business operations. If you take a step back and ask what business looks like today, it is global. You have multinational businesses with a fluid exchange of technology, R&D, and joint developments. There is a strong commercial market, which leads to increased investment in the United States as evidenced by an increase in Committee on Foreign Investment in the U.S. (CFIUS) filings. There are foreign-owned or controlled operations and a growing trend of tax inversion pushing U.S. headquarters overseas. Business is global and that is true whether you're talking about the commercial or defense market. It is also important to consider the movement of personnel. There is inter-company training and trainees coming back and forth across borders with great ease. Finally, you see collaboration with tiered program development where one entity in one particular geographical location may partner with another organization as either a sub, and prime, or joint venture partner. All of this describes the reality of business today. When you think about fluid movement across borders, from people and technology to ideas and widgets, our regulations must address this business reality. If we try to put that square box of business reality into the round hole of export controls, it is not a perfect fit.

After 9/11 and the events in Paris, there is heightened concern over enforcement. Most U.S. businesses want to comply with regulations and want to understand the rules. However, enforcement and penalty cases are at an all time high. There is a much more collaborative and coordinated effort from the regulatory side unlike what we saw initially where a single agency would investigate. One agency will start an investigation and others will often have a hand in it as well. You will often see an export investigation led by State or Commerce, with a joint Treasury Department OFAC investigation. An article that was controlled went somewhere it should not have gone and there are embargoes and sanctions on that article as well. You can oftentimes see stepwise anti-corruption and export control violations as one may lead to the other. The DoJ will be following money for purposes of an anti-corruption case and the money will lead to a product or technology that is also in the hands of someone who should not have it. Additionally, you see the complexity of the control and sanctions, which is important because it is a center point for our trade policy.

The Administration has moved away from straightforward embargo programs where it is essentially a full-stop prohibition of business as a U.S. based company with Iran, Cuba, etc. Now, the most recent set of regulations put in place, such as the Ukraine-Russian sanctions, are targeted for a specific reason. They are developed on directives focused on financial institutions and, more specifically, the particular transactions like debt as well as certain industries including finance, defense, and energy. Sanctions are targeted at certain people and certain entities dealing within those targeted spheres. Businesses found it easier to deal with blanket sanctions but now they need to pay specific attention to the people and entities that they deal with in these countries. For example, businesses must determine if a company is at least 50% owned or

controlled by someone who is on a particular list. A U.S. company has to drill down on their due diligence even further. This reality creates a more challenging environment for business from a regulatory standpoint. Additionally, the enforcement focus has shifted from U.S. companies to U.S. person, individuals, and non-U.S. affiliates. In the export control world, the United States has a long arm and a heavy hand and we take some extra jurisdictional reach. This is important to bear in mind as we are in a global environment. We have multiple forces of issues here – changes in foreign policy from a political standpoint and globalization of business. Has ITAR kept pace with this changing environment? It's hard because we're still dealing with the 1974 model, which has been modified slightly to try and achieve these goals, but is rubbing right up against what businesses are trying to achieve.

Have the ECR goals been met thus far? The goal was to make U.S. business more competitive. In my opinion, not enough has changed yet. We have heightened due diligence, more CIFIUS actions, more FOCL concerns, and businesses are more nervous about these regulations for good reason. Another ECR goal was to make it easier for small and medium sized businesses to follow the regulations. In reality, small and medium sized businesses do not have the resources to fully understand and appreciate these regulations making it complex and challenging for them on a day to day basis. How are the larger companies and defense contractors dealing with these regulations? The risks and demands are higher so there are increased costs. The larger companies tend to be multinational so they have heightened concerns and risks as well. With regards to enforcement, the intent is to focus on the noncompliant persons and entities. However, while we want to get the "bad guys", the reality is all of these laws have strict liability, which means no intent is needed. If you shipped an article, and it was in violation, you broke the law. Any argument of ignorance about the regulation or intent is irrelevant. Strict liability is a very challenging issue for a business. Think about whether a small Mom & Pop operation can keep up with these sets of regulations. It is challenging.

The fences are definitely higher, but so are the stakes. With that, I hope that I provided a backdrop for our dialogue. There are many issues left to cover including transfer of technology, concerns over joint development with universities and private entities, and individuals and trainees that may result in a breach. If you add on the layer of the classification system and the National Industrial Security Program Operating Manual (NISPOM), you further enhance the challenges that businesses face with these regulations.

**Dr. Robert Hummel**

Thank you very much, Lindsey Meyer. That was very interesting and I will start the discussion with you and then broaden it to hear from our other panelists. In regards to the original numbers on exports you mentioned, they miss the chilling effect of suppression due to strict liability. My impression is that a lot of business would love to export, collaborate, and work in this global industrial environment and simply cannot because of the liability issue. How much would the exports be if businesses simply did not have to worry about the strict liability issue?

**Ms. Lindsay Meyer**

I completely agree with that sentiment. To the extent that small businesses are engaged or interested to be engaged in controlled items and working collaboratively, U.S. companies will push the burden to someone else if they can. They will choose to collaborate by providing trade terms and organize their negotiations so they are giving the controlled article to another U.S. organization. It is a huge risk to the business because they do not know where to begin. Do they begin in operations? Where is the technology that they are developing controlled? Which agency

has jurisdiction over control? Often times, businesses will need to engage in a very sophisticated analysis and include their engineers and outside consultants and. This is a struggle for small and medium sized businesses as their margins are quite low. If there were clearer lines with the modification to the ITAR and the whole export control regime to make a clear, definitive, affirmative list, as you see in other countries, you would see greater participation from smaller and medium sized companies.

**Dr. Robert Hummel**

Let me be yet more provocative and simply say that there is a serious impact of the law in regards to small business, but also other businesses. In their perception, if they try to sell abroad or collaborate with foreign entities, then the regulations are going to get them.

**Ms. Lindsay Meyer**

Yes, that perception is out there. In fairness, the Administration has been trying to rebut that perception. Enforcement has turned to cases that involve overseas affiliates. However, some of the programs that have been in put place have been viewed with a skeptical eye, such as the voluntary disclosure programs. These programs were a response to concern of the "gotcha" mentality. The government wanted to make it clear that if you come forward with a voluntary disclosure, they will look to mitigate the infraction. However, the government had a hard time showing that to businesses. In response, BIS officials said the starting point would be 50% of what penalties will be without voluntary disclosure so that businesses had a clear understanding of the mitigation. In this discussion, we have yet to talk about penalties, but they are significant and the zeroes add up rather quickly. That was an effort to respond to concern surrounding the "gotcha" mentality, but at the end of the day, it is still strict liability.

**Dr. Robert Hummel**

The cases I have seen prosecuted of late have been much more egregious kinds of cases. If you go back 10 years, the cases were less clear-cut. Recently, the prosecutions look at whether there may have been intent. However, people may view that as they can sort of violate regulations and maybe get away with it. That is not how we like to do things in the United States Let me be further provocative in my statements. Within five to six years into these well-meaning reform efforts they failed. By trying harder in reform, we are going to fail again. After six years, we should have completely rewritten the 21 category areas rather than only modified them.

**Dr. Charles Mueller**

On that note, we have someone on the panel that can speak directly to that issue. Ms. Candace Goforth is the Managing Director at Goforth Trade Advisors, where she provides clients with strategic, practical day-to-day solutions involving defense trade and export controls. She is a subject matter expert on the ITAR and the export administrative regulations. Prior to establishing Goforth Trade Advisors, Candace served as the Policy Director in the Directorate of Defense Trade and Controls (DDTC) at State, which is the authority for the interpretation and implementation of the ITAR. As Policy Director, Candace administered the State's implementation of President Obama's Export Control Reform initiative and was intimately involved in the revision of the USML and CCL. Candace was also a key contributor in drafting the specially designed definition and formulation of the transition plan. With that, I will turn this over to Candace and let her speak on this issue.

**Ms. Candace Goforth**

Between my experience with the reform effort and being in industry, I have a perspective that is very different. I agree that the ECR has not been implemented as it was envisioned. The government made a lot of assumptions when they were initiating these changes and they had good intentions. However, those individuals within the Departments of State, Defense, Commerce are lifetime regulators and government employees and that caused some issues. I started at DDTC when I was in graduate school, so I went straight from academia to being a regulator. That path leaves little practical experience of the meaning of words outside of government and how regulations are implemented in industry. I agree that it would be wonderful if they made the single control list process happen faster, but there is a lot of discussion and voices to satisfy with the reform effort.

For example, Category 11, or military electronics, had to go through two proposed rules to reach its current state. In the first discussion, it took nearly a year for the engineers from the Commerce Department and Defense Department to remove their personal views from the negotiation and sit down to discuss the category. The Department of Defense (DoD) was averse to giving power to the Commerce Department because there was uncertainty about the way in which Commerce would handle these controls. The DoD feared everything would be “no license required” and they would lose vital assets. Many discussions focused on defining significance of technology, which was different for DoD and Commerce engineers. DoD engineers have years of experience in this field yet are sheltered by the DoD, whereas the Commerce engineers have more exposure to industry giving them advanced understanding of the current state of the field. The Commerce engineers understand more about what other countries are doing in promoting a particular business, whereas DoD engineers are focused on protecting their technology without realizing that it is commonly available elsewhere. These were difficult meetings deciding on the category and eventually an authority had to conclude the deliberations and propose a rule.

The government had difficulty in working on the ECR because they didn't know where to start and they lacked knowledge of how it would be applied. They knew what they would like to see, but it is difficult to know how to achieve that without knowing what it is like to implement the changes. Businesses say, “Everything was ITAR until today, so we always had a license for everything. Now we have to figure out everything from scratch.” The government did not have an appreciation for this business perspective. Unfortunately, there was not a lot of initial industry comment or discussions. The first rule that went out regarded aircraft and there was not much discussion from the big players for aircraft. Industry did not think reform was going to happen, so they did not put much effort into reviewing the rules and putting in comments. The government thought this meant that everything was good and there were no problems. However, when it is implemented, it turns out that the right people in the companies had not reviewed the proposal. The engineers saw the implemented rule and were unsure what it was asking of them. It became obvious that there was no comment collection before it became a rule. We are trying to work through that problem in hindsight. However, one of the pushes of the reform effort was to put something in writing as reform has been promised for many years and this was the first time it was published. The idea is to see how the rule works and then continually update it. The government is in numerous stages on the ECR and the rules are not set in stone. They are willing to make changes and edits as necessary, but they need to know what to change. The government needs to hear the complaints to fix them.

Part of the problem with the current reform effort is that while the administration and management are supportive and signing off on these changes, case officers and other individuals may not be on board. Previously, there was an 85-90% approval rating for all authorizations and very few return without actions or denials. There was a general understanding of what the result would be. Now, it is an inconsistent playing field as making the regulatory changes did not change the minds of people implementing the regulations. Legislative change would have been useful, but I am unsure whether it would have fixed the problems because you still have case officers reviewing aircraft parts that they think are vital as ITAR. The rules have been modified, but these case officers are still the ones who are signing those authorizations.

The Department of State was focused on trying to make things better for companies. That is why there were not as many fines and penalties coming out of State as compared to Commerce. State waited to penalize and fine companies with systemic problems or a disregard for the way the regulation was being done.

The reform effort had good starting points but is getting off track. In coming up with a single category, other agencies are involved so you have to get 13 agencies to sign off on something. While State, Commerce, and Defense engineers developing the rule, you also need to have ATF, Homeland Security, NASA, etc. come together and agree to the specific language. This takes a long time to get done in addition to the everyday job expected of these individuals.

The reform effort was a great intention as we wanted to see change, but there were too many parties involved in the process. My work now is helping companies move from the ITAR to understanding the regulations. It is interesting that most of the businesses I talk to say, "I want to go back to the old ITAR rules, because it was easier then. I had to get a license and did not have to worry about the country charts. My product can now have four different licensing requirements depending on where I am sending it and whom I am sending it to. There is a lot more complexity now." As much as people did not like the ITAR, there was a comfort that came along with it and companies appreciated that the government was defining the hard line instead of taking that liability on their own. There are some mixed reviews on whether or not reform was right.

**Dr. Robert Hummel**

I very much appreciate this analysis. I am sure that you are exactly right as you have more experience than me. It is very cogent, but it is an analysis of the problem with the reform process going along right now. I have no doubt that the reform efforts were well intentioned and it was a great idea of the Administration to move forward with this. The original 1976 legislation gave the President and the Executive Branch the authority to introduce regulations, which flow down to agencies. As you point out, the problem is that there are so many agencies and case officers down at the bottom controlling the process. However, the President has final authority. Couldn't the President simply give guidance that would tie the hands of the case officers and say these categories are no longer relevant to us?

**Ms. Candace Goforth**

Technically, he could do that. However, with the delegations that came through the Executive orders, he removed himself from that role. There is nothing that says he cannot do that. He is relying on the agencies to which he has delegated authority to make informed decisions. But yes, technically he could do that.

**Dr. Robert Hummel**

Those of us with a Department of Defense focus would say, "Let the DoD clean it up."

**Ms. Candace Goforth**

There is a primary reason why the DoD does not have control over the rules. With the Mutual Security Act and other things that are predecessors to the Arms Export Control Act, we did not want the DoD using it as a tool of foreign policy by arming other countries. You could potentially arm someone today that will be our enemy tomorrow. With DoD in control, export controls would be more restrictive and Commerce control would end up having a lot more restrictions. It would be like the ITAR on steroids through the DoD because they will always have the view of the national security aspect. The DoD would want to control things without as much consideration for the human rights and foreign policy concerns and other aspects of reviewing export transactions as considered by State.

**Dr. Charles Mueller**

Before opening the floor to audience participation, I would like to give our final panelist a chance to comment. We were just talking about national security issues and our final panelist today can speak to this topic. Peggy Evans is a Senior Fellow at the Potomac Institute for Policy Studies. She retired from the government in 2013 after 24 years of experience in intelligence and national security programs including the CIA, the White House, and the Senate. As the budget director for the Senate Select Committee on Intelligence (SSCI) from 2009-2013, Peggy developed strategies for reviewing the roughly \$70 billion budget in intelligence in anticipation of a period of declining resources. During her tenure, the SSCI passed four bills in succession that were signed into law after a drought of five years with no authorization act. I will turn it over to Ms. Peggy Evans so she can speak to some of the national security issues regarding the ITAR.

**Ms. Peggy Evans**

Thank you very much. I will stipulate that at the outset that I am no expert on ITAR, the regulations, or the process. I come at this primarily as a policy official and intelligence officer. When I think about ITAR and the original intent, both economically and in terms of national security, I take it more at the policy level. There are some fundamental things that have changed economically and with regards to national security, which my fellow panelists have addressed. In the economic arena, we need to understand the global economy has changed at the strategic level from being an engineering and manufacturing economy to what I call the genius information technology economy. The national security community has to keep these advances in mind in order to continue to do its job, which is to get ahead of the adversary, stay ahead of the adversary, and deter the adversary from engaging in activities inimical to our interests. What goes along with the change in the global economy is the global workforce. The global changes in post-secondary education have resulted in the development of a great deal of talent growing up elsewhere, particularly in the information technology realm. That global workforce follows the money and the money in this arena comes from the venture capitalist world, which is interested in making more money. Working with the government is no longer the assured way of making money. The economy is changing, the workforce is changing, and they are all following the money. The threat to the national security rests in that space.

What does that mean in real life? It means that we have a workforce that is not necessarily dominated by U.S. persons. Where do we find the talent to create the capabilities that keep the United States ahead of its adversaries if they are not U.S. citizens? What do we do when the money does not originate in the United States but rather in an oligarchy, such as Western Europe, or other sources of funding that the United States used to dominate? What does it mean for how the U.S. government and the national security community are going to develop and maintain

technologies to continue to protect us from our adversaries? When I think about national security, I start with the broadest definition, "What is an existential threat to the United States?" It is not necessarily a terrorist event, which is the sort of thing that brings the U.S together, as appalling as that may be. The existential threat is weapons of mass destruction, which can be anything that we are traditionally used to such as nuclear, biological, radiological weapons as well as cyber threats. If you can bring down the critical infrastructure of the United States, and you begin to see the rending of the social fabric internally, that's an existential threat.

What are the technologies that we need to have to be ahead and stay ahead of in order to deter the enemy from striking against us? When I look at the ITAR regime and the businesses and public policy officials that I work with, we are starting with the process instead of starting with the goal or the threat. Every time we create a new prohibition, we are painting ourselves into a corner. We cannot reach out, we cannot collaborate, and we cannot take advantage. We are essentially forcing the money, the people, and the development out of our country. That is the threat.

**Dr. Robert Hummel**

I would like to open it up and see people's reactions at this point.

**Audience Member**

When we have an international nuclear agreement that we signed that includes language for the Iranians to buy weapons technology and ballistics missile technology three to five years down the line, how do those types of international agreements play into the ITAR process? Are the international agreements that the U.S. has already signed or sponsored going to play into the ITAR process and someday allow weapons related technology to be transferred?

**Ms. Candace Goforth**

They go hand in hand since the agreements themselves are their own standalones but the export transactions are going to be reviewed on a case-by-case basis on whether they meet the export requirements. The ITAR will not always be involved. It is going to more directly involve the Nuclear Regulatory Commission because the ITAR has got a presumption of denial for those categories. Even though the agreements may say that this is something that may be considered, whether or not the U.S. government will approve that export authorization to take place is a separate thing. In most cases, I assume that there is going to be a presumption of denial.

**Audience Member**

As new things are being considered in ITAR, are new organizations being considered part of the review process? Is there a conscious effort made to streamline the integration of those new organizations and commodities in the process or are more layers added in?

**Ms. Candace Goforth**

In doing the reviews for the ITAR, it was always to make it clearer and make it more streamlined. Through some of the ITAR implementations, other parties have managed to say that they have an ITAR nexus. There is a lot more Homeland Security involvement in the ITAR. However, the ITAR relates to exports while Homeland Security deals more with imports. Everyone wants to make sure that they have a voice. The lines are getting more blurred. It is not necessarily the ITAR itself that is changing, but rather how the agencies that are involved can be more collaborative. The ITAR should only ever be within the Department of State and have other agencies involved.

**Dr. Alan Moghissi**

I am a former regulator and familiar with environmental and public health regulations. Your presentations identified a several problems, but few recommendations on how to solve them with the exception of Peggy's comments. All of you addressed key issues, including multiple agencies. What is wrong with multiple agencies? Pesticides are regulated by the EPA, FDA, and Department of Agriculture. The problem is not having multiple agencies involved, but rather whether the responsibility of each agency is properly determined and identified.

In my time as a regulator, the regulated industry wanted performance-based regulations. The industry says, "I am a small business and do not know how to comply with regulations," because the objective is improperly identified. A small business does not have enough money to look at the regulations. There ought to be a place where small businesses get advice on how to reach compliance, which the EPA has tried to accomplish.

I would like to hear your recommendations on what the new regulations should be. All laws are passed by Congress. The Executive Branch is responsible for the development of regulation and their enforcement. What should the new law look like if it is redone? Peggy identified some very key issues that need addressed including not only nuclear, chemical, and biological, but also cyberspace. How should these issues be addressed in a manner that is performance based? If a small business needs assistance, how can you help them to comply?

**Ms. Candace Goforth**

My first thought regarding a space for small business to go with questions about compliance is the small amount of people who administer the set of regulations, which is about 125 people. The human resources to have that kind of outreach is not there and that is an issue industry has come up against. Unfortunately, there is no way for them to come in and have those discussions. It has to do with the small number of people and a lack of resources.

I agree with your sentiments about the multi-agency aspect and it has been an issue with export control for years. Many people, especially those in the defense industry, have not had to deal with multiple agencies. In general, they had to work with two agencies, Defense and State. They now have to manage more than what was there before and that is new for them. Additionally, there are more people wanting to be involved, which had not happened before. Previously, other government agencies were not asked and didn't volunteer and, therefore, were not involved. As such, there was a lot of stovepiping within the regulations. It is new for the offices themselves to interact with other agencies in a collaborative effort rather just through referring transactions. For these offices, there is a mindset change that needs to happen. There needs to be an understanding of how it can be collaborative and how it should open up more. Currently, the whole process is very internal with stovepipes and they don't have the experience from other government regulatory agencies.

While there are things that State is still learning, this is the first time most people in the export world have seen multiple agencies. Finding all of this new information is difficult as State has never been good at publishing information about the regulations. Lindsay, mentioned the strict liability, which is a change you would not know about unless you visited the State website. They do not publish their changes and they do not go out and speak on these topics. Generally, they are not forward-moving in that way. I have heard people at a Congressional hearing say, "We are the only game in town. If they do not want to play with us, they cannot play with anyone legally." There is this view that State is the only option, so businesses go to State and State makes regulations. State is not there to help you. Unfortunately, that has always been the power dynamic.

**Dr. Robert Hummel**

One of the main intentions of the reform was to turn that around. Is that correct?

**Ms. Candace Goforth**

Definitely. A lot of the initiatives of the reform effort were meant to get the regulators back on track. The regulators were no longer regulators, but were acting as enforcers. The regulators did not know the regulations because they saw the situation as, "I ask you for this, you give me that, and I will approve your license." They were not asking whether the regulations actually required those documents. They had moved off track from their original purpose, and as a result there were arbitrary and capricious actions that had to be resolved. A lot of these issues were due to the insular nature of the agency.

**Dr. Robert Hummel**

Export.gov is supposed to be a one-stop shop for assistance. However, the problem is that when you go get assistance, you find that there is a Subpart A of Section 3.705, which required you to go to five agencies and apply for an export license, and this and that. This growing complexity over the years has a suppressing effect.

**Ms. Lindsay Meyer**

The ECR tried to modify the behemoth of a system. Rather than trying this modification with several different agencies, why not scrap the system and start anew? We had a new agency come about after 9/11 – the Department of Homeland Security. The new laws and the creation of the agency was forward-thinking. Perhaps it is time that we admit modification did not work and we should look at a new platform where there are not competing agencies. If you remember the satellite issue that went back and forth between the State control and Commerce control, that did not work out well.

We need something different than the piecemeal modification, even though the intent was to bring everything together and streamline the process. As a practical matter, the implementation got out of hand over the years. I have never been in government, but I have been interpreting government regulations from a variety of agencies for 28 years. I have an appreciation from the business side of the regulations.

There have been affirmative outreach programs and efforts, such as Export.gov, aimed at train and educate small business. However, limited resources and increasing exports has led to some offloading of the burden to the businesses. They are expected to self-classify despite strict liability. The training helps the small business owners get educated on the rules and regulations but the paperwork is offloaded to them. This makes small and medium-sized businesses nervous as they would prefer to be told how to classify. This does not solve the problem either.

Another area of concern is privacy and cybersecurity, which are huge issues. Thus far, we do not have regulations on privacy. However, businesses have come together to collaborate and produce self-regulatory instruction. The government has a hand in this, but we saw what happened in the EU in regards to privacy and the decision to step-back. Is there an opportunity for greater self-regulation in establishing the goalposts, with performance metrics in particular?

**Dr. Robert Hummel**

I obviously cannot sell a chemical weapon agent internationally. Can I sell a zero-day exploit?

**Ms. Peggy Evans**

I would ask the question differently. Who is able to create a zero-day exploit? Are we incentivizing our companies and talent to work on that problem because it as an existential threat? Or, by virtue of our regulatory policies, are we pushing that expert into other markets and alternative utilizations of their talent, such as creating a new video game? It really boils down to one point – Can you stop the advancement of the science? You cannot. Due to our gifted military-industrial complex in the engineering age, the United States used to always be forging ahead technologically. We are in a different type of threat environment. Until we acknowledge that we cannot stop what it takes a single genius to create, then we have to understand the state of industry. And this is not just understanding the state of the art, but the general state of the industry. We cannot set up our industrial companies to be unable to compete.

What I like about the reboot approach is the need to reexamine the assumptions – Why are we doing this? Who are the ones that are doing it? How is it done? Self-regulation has a lot of appeal and is a reasonable approach for a huge segment of the areas that we currently require to go through this inglorious process. However, there is a subset of capabilities that we have to treat as crown jewels. At the end of the day, we will likely find that 95% of what we regulate is the state of the industry and that someone, somewhere else is capable of creating, producing, and selling it. All we are doing is holding our industry back and encouraging our talent to work in another arena that is commercially focused.

**Ms. Lindsay Meyer**

I would agree with your statement. If you look to see if there is foreign availability, that is a good starting point to figure out what is technically state of the art and what is not.

**Audience Member**

I have lived around this issue both on the science side as well as the international sales with the DoD side. This system is so much more complex today because it is trying to adapt to the environment you have discussed. In 1976, this was straightforward as it was all built by U.S. companies, and we sanctioned an entire country. Now, we sanction the army of a country but our industry still wants to sell to the navy and air force of that same country. We are trying to adapt in a way that allows us to do that. While it is complex, we have to recognize the system is trying to reconcile this new environment of multinational global companies and foreign nationals moving back and forth. How do you address that from the ITAR perspective? You have to put responsibility further down in the organization. While starting all over is a little simplistic, it may be the right way to go. I would like to know how you would go about doing that.

Regardless of how you start, you are going to run into a couple issues. There will be technologies that the DoD, the DHS, the CIA, etc. are going to consider to be critical crown jewels for national security. We are going to want to protect those technologies. At the same time, the industry is going to want to operate globally. How are we going to make both of those happen? The reality is that once these technologies are out, the first place we go to is the regulators and ask them, "How did you allow this technology to be sold to this country 15 years ago?" We are bashing these people for this. I would like to know how you would go about addressing that as well.

Like anything else, you hate the engineers because they always get in the way of the program managers until the ship starts to sink. Then, the first thing the program managers do is turn to the engineers and say, "How did you let the ship sink?" We have to recognize that government wants

to control this, so how would you start over? You mentioned part of it is reducing the number of items that are ITAR-controlled, but regardless of that, you would still run into the same issues. What things should we start thinking about to address this issue?

**Dr. Robert Hummel**

The position I take in my article is that we should rescind the entire regulation and start over. I should again emphasize this is my personal opinion. In fact, what we are trying to do is formulate some policy recommendations and that is not necessarily the only option. I am interested in hearing what the panel would have to say about potential replacement ideas. The ITAR affects defense articles, which includes physical defense systems (i.e. selling a ship or plane or even a piece of software) and also affects technical information (i.e. knowledge and systems). They are really two different areas. My article focuses on the information side of things.

One other point is that in terms of the Defense Department, we have a classification regime. There are other ways of protecting information. It is not based on self-regulation. It is based on a classification authority and you do not have to think about it. You do not export or reveal classified information except under the proper circumstances.

In our first seminar of this series, a representative from State explained that ITAR was intended as a classification-lite system. The problem is there a lot of things that probably should be classified but are instead put under ITAR. By virtue of having a classification-lite system for ITAR, national security is hurt because the system does not protect information from being emailed around in a new communication regime.

**Audience Member**

I like the idea of starting ITAR over, but in today's America things are different from the America of 1974. We have to follow the money and Congressional committees. We have the 900-pound gorillas of DHS and DoD involved. We have State that wants to be the 900-pound gorilla and we also have Commerce. All of these agencies have committees and subcommittees in both the House and Senate, who also feel like they have a dog in the fight. In Washington, the size of your budget decides the size of your ego. How do you accommodate that as well? Who is going to pull all that together? It was suggested that the President could do it. This would work until members of Congress say, "No, you cannot pull that out of my bailiwick because you are diminishing my monetary authority and therefore my power. Not on my watch."

**Ms. Candace Goforth**

It is interesting that you mentioned the Congressional aspects of the issue. In the original White House task force, the initial tasking was a blank piece of paper to start over with. They spent almost 11 months because nobody wanted to give up ground. DoD, State, and Commerce sat there and tried to pick out the better aspects of what they liked and what they did not like. No one was willing to give up power. For what they did come up with, Congress said, "We didn't like this because now we're losing oversight and purview into things." A lot of things transitioned over to Commerce and a lot of committees did lose oversight. Now, they've manipulated the system to where they do have insight. Even though technically through the Executive orders and different aspects of who reports to whom, we now have additional oversights and such.

Congress had a huge role in how the changes were done and that is probably why some changes were painful. Congress said, "Do not touch that part. We want that part to stay ITAR. We cannot move that because we want to continue oversight." This made it a larger mess of the system. The original effort was meant to start over. What is it that we really want and what do we care about?

Let's look at our regime commitments. The export controls are based on the four regimes. How do we work from that? No one could agree on how to work from that because each agency has its own interpretations. Each agency has its own roles that no one is willing to give up power. This is how we ended up modifying ITAR and making changes to what was already there to try and make the best of what we had available. A lot of it does require legislation.

The Arms Export Control Act and the Export Administration Act cannot change unless Congress initiates it. The agencies can say all they want but until there is Congressional support, those changes are not going to happen. Congress is not willing to support that change. Through my years in this field, I have watched Congress do all sorts of things in that way. Under President Bush, there was a directive to fix an issue with fees. Companies pay a registration and license fee for everything they do. Businesses have to pay the State hundreds of thousands of dollars a year. Congress has always refused to make the Legislative changes to the AECA to let that money be used. The money sits there growing in a bank account gaining interest, but no one can touch it. Even though the President directed it to be changed, the AECA has not been changed to reflect that intent.

The control list was brought up in the proposed rules when they first went out and foreign availability is always considered. However, things on U.S. conditions list are not always on the list for technical reasons or based on being the most advanced technology. It is also for non-proliferation concerns. We want to know who U.S. companies are interacting with. Are they developing missiles with a country that we do not want them to be involved with? While the technology itself may be commonly available, they want to watch how U.S. technology is being utilized. It is not always because it is the crown jewels.

A lot of European countries and others have the same export controls, but do not have the same extra-territoriality that the Arms Export Control Act has. British, French, German, or other companies cannot export military goods without a license. However, they do not have this follow-on, which is what has made the ITAR such a burden to many U.S. companies. The French do not want to have to comply with U.S. law. The French companies in themselves have their own set of regulations. They have to deal with technology and services exports of hardware. However, once it is out of their country, they are fine. Their laws do not have further follow-on. This is where this fear of the ITAR and the desire for ITAR-free products has come from. The fear is that one little item could taint a whole aircraft for a non-U.S. supplier. Countries are actually becoming more like the United States. Australia has changed their laws and the United Kingdom is in the process of changing their laws to have a more extra-territoriality. As much as the United States has changed and lessened our laws, the United States has pushed other countries to be increasingly similar to us.

### **Ms. Peggy Evans**

If you did this for a smaller pie, that would make a lot of sense. If we had the type of people involved in this process who had more expertise than a typical government regulator, and an independent body that determined the state of the global industry, we would have a starting point. The regulators could focus on the things that really matter and be able to rely on external expertise. When we ask why we do something, we need to look at who does it and how they do it. At the end of the day, we would find that there would be a smaller pie of greater risk with the right people for the government to confer with to aid in that determination of whether something is commoditized.

Let me point out an extreme example that has happened over the last three or four years in the U.S. commercial imagery market. The DoD and the intelligence community produce satellites.

This is a process where DoD and the intelligence community could be accused of not wanting competition to create capabilities that they have developed with little to no regulation and cost-capping. Is there integrity in that process? We went from two commercial providers to one. We have heard a great deal about how Wall Street is interpreting not only what the U.S. government is buying, but also what the U.S. government is permitting these companies to sell elsewhere without sufficient consideration of what those customers can already buy elsewhere. This is a classic case of where the perfect is the enemy of the good here.

**Ms. Lindsay Meyer**

That was the intent of the reform. It was about the taller fences around the crown jewels. The idea was right, but the process got bogged down in that. We do have a system in the classified world where sensitive items are controlled. We know who is doing what with whom as well as what is being handled. That model is out there. Perhaps it is a model that can be further adapted to incorporate the most sensitive items that are currently ITAR controlled. Examining the largest subset that has the least restriction on it, which is the commercial dual use products, might be a more effective way forward.

**Dr. Charles Mueller**

We have been talking about the complications with ITAR and the enabling legislation. All of these things that we have been discussing, including writing a new law or new regulations, seem like static solutions to a dynamic problem. Part of addressing the issue is looking at it as a dynamic problem. Even if we made the best set of regulations we would have to come back to them in ten years. What is the end state? What is the goal that we are constantly trying to achieve? How can we establish a process and the proper measures of accountability and the right performance metrics to keep us in check? This is an ongoing effort and not a one-and-done kind of solution. Where should we be heading and what should the end state should look like?

**Ms. Lindsay Meyer**

Conversely, imports have the same harmonized tariff schedule, but this undergoes yearly review. The original schedule was established 100+ years ago yet has a constant review. As technology and widgets develop, there is an acknowledgement that the regulatory process and classification needs to keep pace. The same sort of precise, regular, predictable review with input from industry, government, and all other parties on issues of policy, commerce, and fungibility has not happened on the export side. The import model is a nice one that could be adapted to the export side.

**Ms. Candace Goforth**

That type of review is happening. The plans as implemented were to perform the first rule change for aircraft. That went into effect in October 2013. They asked how these rule changes were working and received public comments 16 months later. They will do a review of each of the categories every 16 months as they come along. They are stressing that it is reform right now, but that this updating process will become normal. The USML was relatively unchanged for 50 years. I have a copy of the ITAR from the 1930s and back then, there were the same issues. The commercial aircraft industry was complaining about the ability to support Allied forces. The point is that the lists are going to be continually updated. When State decided to go through with the reform effort, they knew that they were going to keep updating the list and make changes so that the aircraft category seen today will be different next month or a year from now. They are going to continually do this and put it out for public comment. The next category, which is land vehicles and vessels, has been released to collect comments on what needs to be changed, how they

will make impacts, and what needs to be cleaned up. They are going to continue to do this with all of the other aspects of the regulations. The lists tend to be the bigger issues but there is also interest in the exemptions and other areas.

**Ms. Lindsay Meyer**

I would be happier with that if it was not still 21 lists on the ITAR USML and additional items on the Commerce side.

**Ms. Candace Goforth**

It is hard to get rid of the 21 categories because they are platform-driven. You have an aircraft category and a vehicle category unless you merge them. It follows how the other regimes do their categories as well. The USML will generally be platform-driven unlike the Commerce Department, which looks at things from a functionality perspective. I do not think that you will get rid of the 21 categories.

**Audience Member**

For those of us who work in the highly classified arena, when ITAR gets added to the slides it is difficult to deal with the Five Eyes. We would like that taken out so that is easier to discuss classified information and the real crown jewels, in this context. Additionally, I support a number of businesses looking at foreign opportunities. From a small business standpoint, we are seeing companies design and build unmanned air systems overseas so that they are ITAR-free. With additive manufacturing, the globalization of the workforce, and other factors, do you see this continuing? Especially as it pertains to small businesses trying to find a way to build the next rocket motor, build a new component, or develop new software overseas. Someone who wants to build ITAR-compliant mission planning software would go overseas to do that.

**Ms. Candace Goforth**

There was a big push to get people to move away from developing ITAR-free technologies. I now hear the phrase U.S.-free. The Export Administration Regulations have their own re-export, re-transfer requirements similar to the ITAR on the dual-use side as well as the 600-series side. There is a desire to get away from all U.S. regulations. Unfortunately, this is always going to be the case so long as the regulations have the extra-territorial nexus for continually controlling the use of information and hardware. The regulations say that until an article is rendered useless or destroyed, the United States has a hook into it. The United States is still regulating F-5 jets that were sold 30 years ago and are not being sold new. Anytime one is in use, the U.S. government gets involved. This is always going to be an issue.

**Ms. Peggy Evans**

Let's turn that on its head for just a second. For a long time, we required foreign governments to have U.S. subsidiaries in order to address this. What that scenario incentivizes now is going the other way so that a foreign entity with foreign employees and foreign investment dollars is developing products in foreign countries. Now the tax benefits are for that country instead of the United States. The entire incentive structure and model is turned on its head.

**Ms. Candace Goforth**

A lot of U.S. companies have their U.S. company and then all of their non-U.S. subsidiaries have no access to U.S. technology or hardware. Rather, they develop their own. The U.S. companies want to get their royalties and benefits from their subsidiary sales. When you have a European company with U.S. subsidiaries, the regulations make more sense there because you do not want

to have non-U.S. technology get into the United States and then become U.S. technologies. They do not want contamination in that direction either. The regulations themselves are not conducive. They are a “Cold War” document because they are about protecting the United States against the world. U.S. companies made articles for the U.S. military, and when they did go outside the United States it was to support the government. The role was not for collaborative exercises or development with private companies in another country. This was not what the regulations were intended to tackle as it was not the way that business was done at the time. The last time the ITAR was really updated or modified was in 1984. It still references faxes and paper copies and does not account for emails or cloud computing. The regulations have not kept up with the industry. That is one reason that there was a focus on moving portions to the Commerce Department. While it is more complex, they have flexibility in being able to utilize licenses and the like. There are a lot of things that they wanted to change within the ITAR, which would require Congressional approval for an amendment to the ITAR or an actual change to the AECA itself. They could not get that moving so instead they were trying to create the 80% solution by changing things that did not need to be Congressional approved.

**Ms. Lindsay Meyer**

To add to that, one of the challenges with a long arm and heavy hand outside of our jurisdiction and regulations following the technology and widget with re-export overseas, is that other countries are enforcing their regulations more stringently. It is tit-for-tat. They have recognized that their businesses affiliated with U.S. businesses or using U.S.-originated technologies are now exposed to liability under our rules, books, and records.

**Audience Member**

If the desired outcome were to allow companies to obtain ITAR approval within a two-week time frame, how would you modify the process to enable that? I realize this might not be attainable, but how would you work towards that goal and what changes would you make to the ITAR process?

**Ms. Lindsay Meyer**

Firstly, I would need access to the funds that are locked up and organizational resources.

**Ms. Candace Goforth**

We need more staff and that was the whole point of the registration fees.

**Audience Member**

Small businesses do not have access to the funds to go out and hire the team of lawyers that it takes to get through the ITAR process. It can be very complicated.

**Ms. Candace Goforth**

There is a lot that can be done. State’s regulators do not always have a technical background, so they are required to refer many things to the Department of Defense for the engineering analysis. They are not engineers nor are they coded to do engineering if they have a technical background at State. A lot of it is referral to the DoD. If State had engineers on staff to perform those initial reviews, it could cut down on the processing time.

**Audience Member**

Could I suggest that you establish deadlines for the people who are required staff in the process as well as their supporting actors?

**Ms. Candace Goforth**

There are two sets of deadlines. The first one is internal within State. The different sections, such as the Country desk or Human Rights desk, have 15 days to respond. The NSPD 56 President Bush put into place that did the self-financing also put out a requirement that all cases have to be adjudicated and approved within 60 days. However, this came with exceptions. The primary exception is when the DoD is doing a technical review they have as much time as they want. Until you rein that in, the majority of licenses will exceed the timeframe. The big time sink is the technical assessment. Having an engineer at State could probably allow them to get a lot of those cases moved and done within a couple of weeks.

**Ms. Peggy Evans**

Maybe not even as an employee, right? It could be a rotating position that incorporates someone with the global industry knowledge.

**Ms. Candace Goforth**

That is the key. Right now, the State DDTC is 60% contract staff. They are not all civil servants. You could have rotating people who come in and do the analysis. That would require access to the money to be able to do that.

**Audience Member**

We started this conversation in the frame of, "What are the recommendations that we need?" Ms. Goforth, thank you for reading my mind and answering my question. I had wondered, "Are the regulators by definition engineers?" The answer is no. Why not? If you are going to be dealing with mechanical items like tanks, why aren't the people with a mechanical engineering background performing the review? Regulating is easier to teach. Engineering is a different skillset than regulation. When you said that the DoD can take forever, I harkened back to my days at NRO and Circle A. For these FFRDCs (Federally Funded Research and Development Centers), "good enough" is the enemy of perfect.

**Audience Member**

Having been through this two years ago with Ash Carter, what you will find is that DDTC approves something like 98% of the licenses that come in within the prescribed timeline. It is those that are more complicated that take a long time. NRO activities are going to be complicated not because of technology but because you get into the discussions of, "Do we want to and why should we?" The way the government likes to handle those is by finding a way not to say "no" outright. They do this by taking no action and this puts the emphasis on ITAR staff. It is not this staff's fault, but the government does not want to tell a country "no", so they just do not respond. For the vast majority of cases, this process works pretty well. It is the complex, unique cases that take longer and perhaps they should take longer. The other issue is the reality that the Department of Defense, like State, is not going to give up their purview. You can have a thousand tank engineers at State, but you have to assume that the tank engineer at the DoD is going to review a case as well. The process at State has evolved to say, "We will let the technical review be done by the agency most interested in that and we will manage the regulatory piece of it." We should not get too enamored with the idea that this is all taking too long because I do not think that it is.

**Ms. Candace Goforth**

With the reform effort, most of the 90% of the licenses that are easily reviewed have transitioned over. The things that are left under ITAR are the ones that are going to take a long time. This is the why bringing in DoD engineers to a detail at State for some time might be useful. Looking at the process now, there are not hundreds of parts licenses a week for nuts and bolts as they are not controlled any more.

**Audience Member**

It would certainly be something worth looking at since we have moved those items off of the ITAR lists. Having come from NRO, those discussions are generally not technical discussions. Those discussions very quickly get to the senior leadership on both sides arguing whether to do something or why they want to do something. The discussions do not have to do with technical security. It has to do with State policy and DoD policy. You have to accept that some percentage of those are hard and are going to take some time. What is that percentage and can we make it as small as possible?

**Dr. Robert Hummel**

This has been a great discussion. This was the second in a series of workshops and discussions in which we are gathering information. We will do an analysis and produce some recommendations. We will attempt as an Institute and as a group to accommodate multiple opinions and attempt to move the nation in the right direction to achieve the ultimate goals here. I want to thank our panelists and the audience for their participation.

## APPENDIX F: LIST OF WORKSHOP AND SEMINAR PARTICIPANTS

### The Impact of International Traffic in Arms Regulations (ITAR) on National Science and Technology Research (July 27, 2015)

- Michael Swetnam, CEO, Potomac Institute for Policy Studies (PIPS)
- General Alfred Gray, 29th Commandant of USMC (Ret), Senior Fellow & Chairman of the Board of Regents, PIPS
- The Honorable Lee Buchanan, President & CEO, Arete Associates, former Assistant Secretary of the Navy Research, Development & Acquisition, Member Board of Regents, PIPS
- The Honorable John Young, former Under Secretary of Defense for Acquisition, Technology & Logistics, Senior Fellow & Member of Board of Regents, PIPS
- Christopher Stagg, Partner, Noonan LLP (Former DoS employee, wrote ITAR amendments)
- Sarah Heidema, Division Chief of Regulatory Affairs, DDTC
- Dr. Robert Hummel, Chief Scientist and VP of Research, PIPS
- Dr. Mike Fritze, Senior Research Fellow, PIPS
- Dr. Alan Moghissi, Senior Fellow & Member of Board of Regents, PIPS
- Dr. Charles Mueller, Director RSEC, PIPS
- Dr. Jennifer Buss, Director CNS and CReST, PIPS
- Richard Pera, Research Associate, PIPS
- Josh Eisenberg, RSEC intern, PIPS

### Stumbling Over ITAR: How Does Industry Cope with the Regulations? (December 1, 2015)

- Dr. Robert Hummel, Chief Scientist and VP of Research, PIPS
- Dr. Charles Mueller, Director RSEC, PIPS
- Ms. Lindsay Meyer, Managing Partner, Venable, LLP
- Ms. Peggy Evans, Senior Fellow, PIPS
- Ms. Candace Goforth, Founder and Managing Director, Goforth Trade Advisors

### Discussion Participants

---

- |   |   |
|---|---|
| • Jonathan D. Addelston, FMISSS                         | • VADM William Landay USN (Ret.), Senior Fellow, PIPS                 |
| • Maj. Gen. Jim Armor, USAF (Ret), Orbital ATK          | • Jenn Lato, PIPS   |
| • Brian Barnett, PIPS                                   | • Robert Leheny, Institute for Defense Analyses                       |
| • Glenn Beach   | • Tod Levitt, George Mason University                                 |
| • Jim Bower   | • Dr. Rebecca McCauley Rench, PIPS                                    |
| • Bruce Cathell, ViaSat, Inc                            | • Dr. Alan Moghissi, Senior Fellow & Member of Board of Regents, PIPS |
| • Craig Childress, Eagle Talon Solutions, Inc.          | • John Morris, Morris Analysis Group                                  |
| • Giovanna M. Cinelli, Dentons US LLP                   | • Daniel Radack, Institute for Defense Analyses                       |
| • Barbara Clark, Orbital ATK                            | • Lee Rizzo, Space and Intelligence Systems                           |
| • Mark N. Clemente, The Boeing Company                  | • Dave Seder, Marine Corps Systems, The Boeing Company                |
| • Gail Clifford, PIPS                                   | • George Solhan, PIPS   |
| • Dr. Mike Fritze, PIPS                                 | • Mark D Troutman, George Mason University                            |
| • Tim Hanifen, Marine Corps Systems, The Boeing Company | • John Varljen, Varljen Consulting LLC                                |
| • Rebecca Hartley, George Mason University              |   |
| • Wynt Htoon, L-3 Communications                        |   |

# APPENDIX G: BRIEFING FROM RSEC INTERN JOSH EISENBERG

**International Traffic in Arms  
Regulations (ITAR) Reform**



Josh Eisenberg  
RSEC Intern  
Summer 2015



**Agenda**

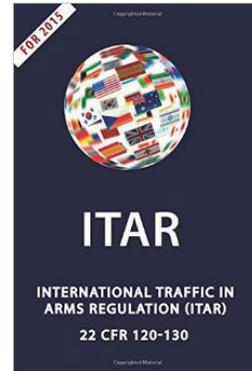
<p><b>Overview of ITAR</b></p> <ul style="list-style-type: none"><li>• Purpose</li><li>• Current State</li></ul>	<p><b>Research Goals &amp; Methods</b></p>	<p><b>Findings</b></p> <ul style="list-style-type: none"><li>• Science &amp; Technology</li><li>• National Security</li><li>• Economic</li></ul>
<p><b>Policy Recommendations</b></p> <ul style="list-style-type: none"><li>• Short Term</li><li>• Long Term</li></ul>	<p><b>Conclusions</b></p>	

## Overview of ITAR

- **Purpose of ITAR**
  - Control the export of products with potential military use
  - Maintain U.S. edge in defense technology
  - Deny military technologies to foreign adversaries
- **Current State**
  - Recent reforms update the U.S. Munitions List
  - Industry stakeholders and academics still have concerns about ITAR's impact on national security and science and technology research

## Research Goals

- Evaluate the success of ITAR in achieving its goals
- Determine the impact of ITAR on domestic science and technology research and national security
- Explore viable alternatives to ITAR's framework



## Research Methods

- Legislation:
  - Arms Export Control Act
  - Export Administration Act
- Workshop with experts from government, industry, and academia
- Public comments on ITAR rules
- Stakeholder reports on the impact of ITAR in various science and technology sectors



## Findings: Science and Technology

- **Sheltering U.S. defense technologies can have a negative impact on domestic innovation**
- Regulations do not keep up with the pace of technological development
- ITAR discourages U.S. companies from investing in defense technologies
- There is not enough collaboration between the State Department and industry stakeholders



## Findings

- **National Security Implications**
  - ITAR allows foreign companies to make large profits in the international arms trade and reinvest
  - The U.S. has lost its advantage in many of the technologies that ITAR was meant to protect
    - » i.e. Aerospace, Radar, etc.
- **Economic Implications**
  - The U.S. has one of the most stringent export control systems in the world
  - ITAR's complicated requirements hurt small businesses and favor big defense companies

## Short Term Policy Recommendations

- **Information Sharing**
  - Increase collaboration between the State Department and commercial stakeholders
  - Notice and comment is not sufficient
- **Regular Review of USML**
  - Mandated by law and necessary to keep up with the pace of innovation
- **Metric for Rulemaking**
  - Export controls should focus on protecting capabilities and countermeasures

## Long Term Policy Recommendations

- **Legislative Fix**
  - Pass a streamlined arms export control statute
  - Assign all export controls to one agency
  - Allow country exceptions
- **Regulatory Fix**
  - Loosen restrictions on emerging technologies to encourage investment and prevent migration of human capital
  - Maintain technological edge by classifying countermeasures

## Conclusions

- **Isolating the U.S. defense industry does not delay foreign development**
- In order to safeguard national security, the U.S. needs to incentivize companies to invest in military technology
- The U.S. will maintain its technological advantage by protecting capabilities and countermeasures

## APPENDIX H: COST OF ITAR BRIEFING FROM DR. ROBERT HUMMEL

### Direct Costs of ITAR

- Loss of exports
- Cost of applying for licenses
- Cost of registrations
- Industry Compliance costs
  - Lawyers
  - Training
  - Procedural costs
    - » Time spent adjudicating
    - » Time spent applying for licenses
    - » Time spent on registrations
    - » Security costs for employees and visitors
      - Badging and verifying status
  - Facilities costs for segmenting ITAR and non-ITAR spaces

### Costs of ITAR due to impediments

- Communication costs
  - Costs from delays due to the inability to easily transmit ITAR technical information through speedy (e.g., Internet) channels
  - Costs for non-digital communication/dissemination of ITAR technical information and data, and/or encryption technology
- Lost sales due to delays required by the licensing process

### Other Direct Costs: Government Costs

- Cost of enforcing ITAR
  - Multiple offices and bureaus across the government
  - Cost of maintaining lists
    - » Involves scientists, public comment, expert panels
  - Cost of the reform process
- Costs of monitoring ITAR components in exported systems
- Prosecution costs

### Opportunity Costs

- Companies and industries dissuaded from entering the defense business
  - Less competition leads to higher costs
  - Fewer innovations
  - Defense industries unable to ride developments in commercial industry as quickly, easily
- Talent who are ineligible to work on defense technologies
- Talent who are ineligible to work on technologies that might have dual-use

### Dissuasion Costs

- Industries avoid activities that would be legal, out of fear of unfounded legal problems
- Foreign concerns buy non-U.S. parts for “ITAR-free” systems
  - Encourages foreign concerns to develop technology to compete with ITAR offerings
- US loss of technical expertise by dissuading technology investment in ITAR technical areas
  - Leads to lack of technical dominance, whence ITAR protecting technically inferior offerings
  - Hurts national security
- Encourage technology investments by potential adversaries
  - ITAR provides a guidepost
- Facilitates and encourages theft of technology
  - ITAR as a “Steal me here”
  - Motivates material that should be classified to be held on unclass systems

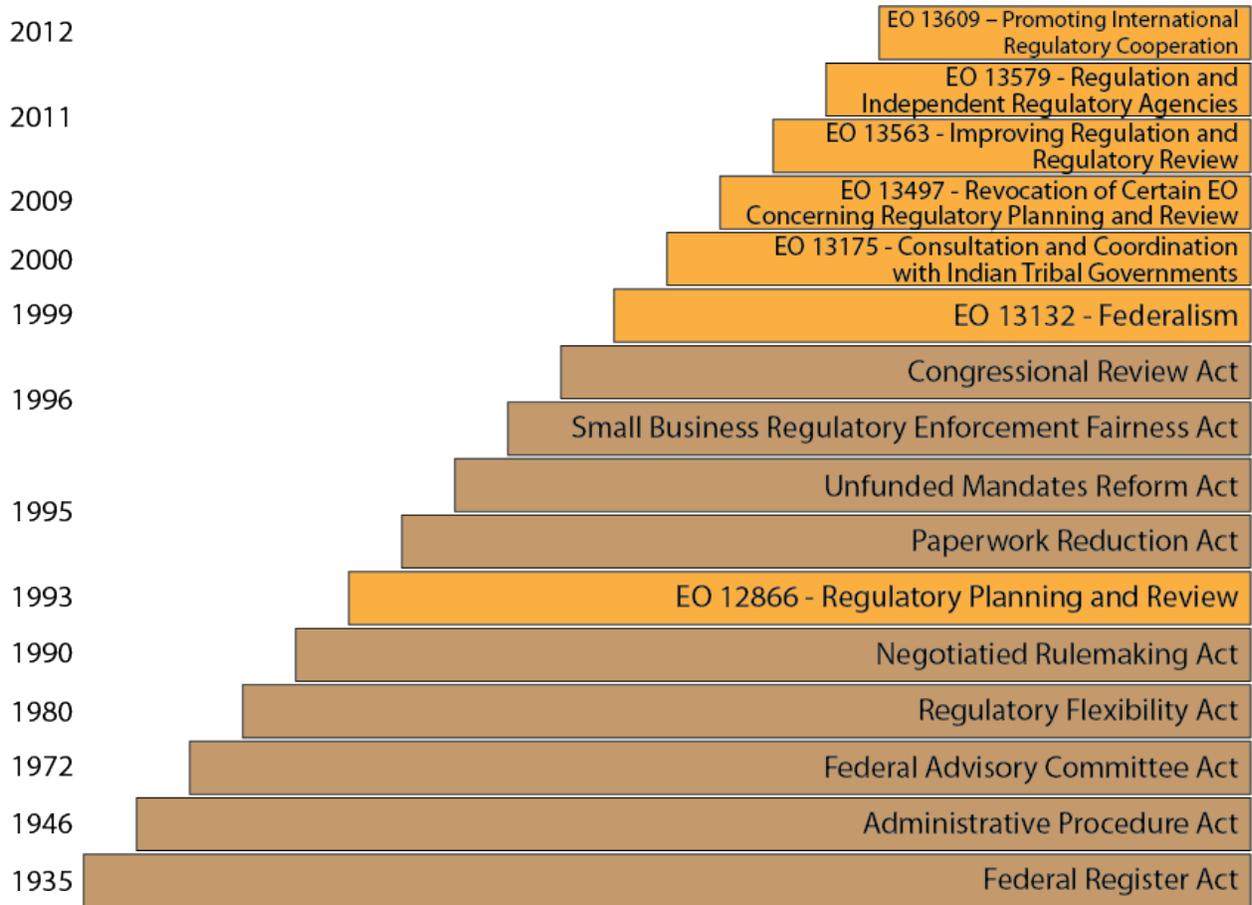
### Supposed Benefits of ITAR

- Claimed goals
  - Enhance National Security by limiting adversary access to arms and technology
  - Promote foreign policy objectives by enabling military aid to desirable partners
  - Protect technology to monopolize sales of advanced systems
- But:
  - ITAR protects little, because there are foreign offerings, and because information flies at the speed of the Internet
  - Foreign policy is hurt because ITAR restrictions apply to all foreign entities, even those with valid licenses to receive U.S. exports
  - Technology proliferates, and ITAR encourages and enables proliferation

### Alternatives

- Program Protection Plans for Defense Systems
  - Already exists for MDAPs
  - Contractual agreements in federally-funded development
- Security classification by original classification authorities
  - E.g., Confidential level security
- Embargoes

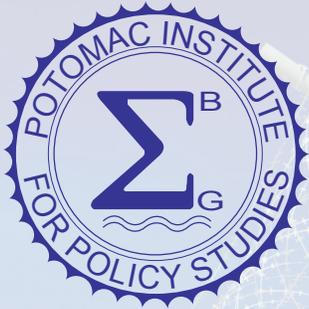
## APPENDIX I: DOCUMENTS GOVERNING THE REGULATORY PROCESS



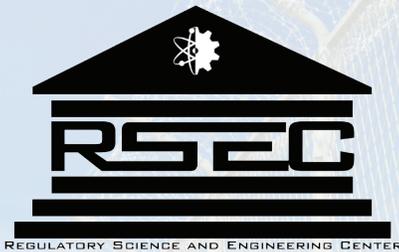




# A POTOMAC INSTITUTE FOR POLICY STUDIES' REPORT



**The Potomac Institute for Policy Studies** is an independent, 501(c)(3), not-for-profit public policy research institute. The Institute identifies and aggressively shepherds discussion on key science, technology, and national security issues facing our society. The Institute hosts academic centers to study related policy issues through research, discussions, and forums. From these discussions and forums, we develop meaningful policy options and ensure their implementation at the intersection of business and government. The Institute remains fiercely objective, owning no special allegiance to any single political party or private concern. With over nearly two decades of work on science and technology policy issues, the Potomac Institute has remained a leader in providing meaningful policy options for science and technology, national security, defense initiatives, and S&T forecasting.



**The Regulatory Science and Engineering Center (RSEC)** at the Potomac Institute for Policy Studies is a definitive source of information on developing and implementing regulatory policy based on science and technology. RSEC builds and maintains a comprehensive library of knowledge regarding the science behind making regulatory policy and the history that created the foundations of our current regulatory practices. Additionally, RSEC serves as a resource center for all individuals or organizations that attempt to practice regulatory science by establishing various tools and processes that can assist in the practice of using science and technology in developing regulations and regulatory policies. Taken together, the basic mission of RSEC is to communicate best practices of regulatory science and engineering for the development of regulation and regulatory policy to government agencies, academia and industry, and develop new tools, standards and approaches to designing, implementing, and managing regulations and regulatory policy.

**POTOMAC INSTITUTE FOR POLICY STUDIES**  
**901 N. Stuart St. Suite 1200**  
**Arlington, VA 22203**