7-1-2012

Reevaluating ITAR: A Holistic Approach to Regaining Critical Market Share While Simultaneously Attaining Robust National Security

Justin Levine

STUDENT NOTE

Reevaluating ITAR: *A Holistic Approach to Regaining Critical Market Share While Simultaneously Attaining Robust National Security*

Justin Levine*

ABSTRACT

This note considers the application of the International Traffic and Arms Regulations ("ITAR") framework and proposes statutory and policy modifications to promote both national security and industry growth. ITAR is the regulatory framework that controls the export of munitions and defense technologies from the United States. However, as applied, free trade is now grossly over-regulated to such an extent that both significant market share and industry opportunity have been lost and national security itself has simultaneously been threatened. Due to heavy restrictions, many previous industry partners are now looking elsewhere for trade and systematically avoiding the United States for inclusion in research and commerce transactions. The ultimate effect of this relieves America of any oversight or involvement in the newest of defense technologies while concurrently providing these opportunities to foreign entities such as Russia, China, and India. This note proffers a spectrum of recommendations that aim to retain robust national security while regaining lost market share and critical trade opportunities.

* J.D., University of Miami School of Law, 2013; M.A., International Business, University of Florida, 2010; B.S. Business Finance, University of Florida, 2009. Editor-in-Chief of the University of Miami National Security and Armed Conflict Law Review. Edited by Alexander J. Roth.

TABLE OF CONTENTS

INTRODUCTION 153

I. The Evolution and Current State of ITAR 154

II. Foreign and Domestic Competitiveness 155

III. Domestic National Security and Foreign Relations 161

IV. Recommendations 165

USML Revision(s) 165

Transparency 166

Long-term Investment 166

Policy Changes to Encourage Growth in Intellectual Capital 167

Expeditious Dealing with Previous Trading Partners or Friendly Entities 168

Collective Licensing 168

Grants or Tax Incentives 168

Post-exportation Trading Freedom 169

Automation of ITAR Administration on Industry Side 169

CONCLUSION 169

INTRODUCTION

Both the modern expansion of technology and a growing knowledge of warfare create a broader availability of instruments and methods that can be used against a nation. Nations developing these instruments thus have an incentive, in the interest of their own security, to establish oversight and regulation before releasing these technologies into the international stream of commerce. In the United States, it is the International Traffic and Arms Regulations ("ITAR")[1] that govern the export of American-born munitions and defense technologies.

ITAR tracks and evaluates the trade of certain technologies that are classified as "restricted" on the United States Munitions List ("USML"). If a good or technology is deemed "restricted" it must be approved for trade through the ITAR licensing process. If approved, these technologies can then enter the international stream of commerce. Ultimately, the ITAR framework exists to protect American national security by blocking the access to sensitive technologies by adverse or untrustworthy entities. While national security is a significant concern of the United States, other concerns, primarily economic growth and domestic profitability, cannot be dismissed. In recent years, however, this appears to be the case. Because of ITAR complications, many American defense and technology businesses have lost considerable market share.[2]

In 1999, out of growing concerns for national security, the authority over ITAR was transferred from the Department of Commerce to the Department of State.[3] Accompanying this transfer were significant intensifications in compliance requirements that resulted in a decrease in the number of technologies and goods that could freely enter the stream of international commerce.[4] These changes led to a stifling of the economic growth and profitability of American businesses.

To date, these changes have altered the face of the United States' involvement in international trade and investment as well as innovation in defense, dual-use,[5] and space technology. ITAR's current investigative and licensing processes have weighed down businesses by imposing an excessively heavy burden of compliance.[6] Some American businesses have engaged in expensive research and development ("R&D"), planning, and sales—all within compliance—only to still lose foreign customers due to impatience with ITAR export processes.[7] For some American firms, the ITAR licensing process has become such a burden that they are shifting their resources from developing defense technologies to other less restricted industries.[8]

From a foreign business perspective, ITAR is more than a mere inconvenience. Foreign states previously loyal to American innovators and manufacturers are being driven away from American goods

---

1 22 C.F.R § 120-130 (2011).

2 Richard Kusiolek, *ITAR Dilemma: Finding The Balance Between Regulation And Profit*, SATELLITE TODAY (Jul. 1, 2008), http://www.satellitetoday.com/military/milsatcom/ITAR-Dilemma-Finding-The-Balance-Between-Regulation-And-Profit_23649.html.

3 *Id.*

4 *Id.*

5 A good is considered "dual-use" if it can be used for both commercial and defense oriented purposes, such as a communications satellite.

6 OFFICE OF UNDER SECRETARY OF DEFENSE, ACQUISITION, TECHNOLOGY & LOGISTICS, INDUSTRIAL POLICY, ANNUAL INDUSTRIAL CAPABILITIES REPORT TO CONGRESS, at 30 (2011), *available at* http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CDAQFjAA&url=http%3A%2F%2Fwww.acq.osd.mil%2Fmibp%2Fdocs%2Fannual_ind_cap_rpt_to_congress-2011.pdf&ei=o7OIT9ikEcjEtweDrZW-CQ&usg=AFQjCNFeystx9d0VlymVb0ePHF6yA7QpnA.

7 David Pugliese, *Navy says no to buying American; U.S. restrictions on technology can lead to delays*, THE OTTAWA CITIZEN (Jan. 25, 2010), http://www.canada.com/business/Navy+says+buying+American/2480208/story.html.

8 OFFICE OF UNDER SECRETARY OF DEFENSE, ACQUISITION, TECHNOLOGY & LOGISTICS, INDUSTRIAL POLICY, ANNUAL INDUSTRIAL CAPABILITIES REPORT TO CONGRESS, at 33 (2009), *available at* http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&sqi=2&ved=0CCYQFjAA&url=http%3A%2F%2Fwww.acq.osd.mil%2Fmibp%2Fdocs%2Fannual_ind_cap_rpt_to_congress-2009.pdf&ei=Pq6IT82RA8agtwe325DNCQ&usg=AFQjCNH0aaGgMCAhJSJhclMeQ38ToMAvbw.

altogether.[9] Specifically, they are shifting towards entities with more relaxed export control regulation.[10] More than just isolated examples, however, there is *growing momentum* among foreign customers and businesses going elsewhere to obtain defense technology.[11] This shift is causing many U.S. companies to abandon ITAR-regulated industries or simply fail altogether.[12]

With American competitiveness in these industries dwindling, market voids have been created. As in all markets, a void creates an opportunity for competing incumbents or new market entrants. Moreover, gaining economic supremacy by capitalizing on market voids in industries such as space and defense technology *also* creates foreign advantages in diplomatic power and a State's ability to use force. Therefore, boosting American competitiveness in these industries promotes national security as well. Losing competitive ground has the opposite effect. With countries like China and India stepping up as both space and economic players[13] and the omnipresent war on terror, the United States cannot afford to fall behind either economically or defensively.

The bolstering of ITAR compliance requirements in 1999 was to keep national security as a high priority and maintain an intellectual hold on modern technologies that could potentially be used against the United States.[14] However, contrary to the intentions of Congress, these changes in ITAR have actually *increased* the potential for national security threats while simultaneously impeded the economic growth of America's defense and technology industries.[15] Many independent recommendations to update the ITAR language have been offered by participants in these industries. Instead, by making a *multitude* of policy and regulatory recommendations, this article looks beyond the statutory language to offer a long-term, holistic approach to regaining domestic market share and robust national security.

Section I of this article will discuss the history of ITAR and changes leading to the complications in the international trade community. Next, section II addresses how these changes are affecting foreign and domestic competitiveness. Section III will undertake the current heightened concerns regarding national security. Finally, section IV will deliver recommendations that both maintain national security priorities and regain economic competitiveness in the international technology industries.

I. THE EVOLUTION AND CURRENT STATE OF ITAR

As one would expect, exportation of defense and munitions technology is a highly regulated area. In the United States, there are two sets of statutes that govern these export controls: the Export Administration Act ("EAA"),[16] and the Arms Export Control Act ("AEA").[17] The EAA is instructive as to the *administration* of defense goods and technologies.[18] The focus of this article on the other hand, sits with the AEA, which has a more specific goal of "*reducing* the international trade in implements of war" by restricting which goods and technologies can be exported.[19] The AEA is administered by the Department of

---

9 Pugliese, *supra* note 7.

10 *See* Raymond Colitt, *Brazil Favors France's Rafale Jet*, REUTERS (Apr. 7, 2010, 3:44 PM), http://www.reuters.com/article/2010/04/07/brazil-jets-idUSN0710697320100407 (discussing an example of the Brazilian government choosing to purchase alternative technology in an effort to avoid engagement with ITAR).

11 Kalliroi L. Landry, Exploring The Effects Of International Traffic In Arms Regulations Restrictions On Innovation In The U.S. Space Industrial Base, 12 (Aug. 2010) (Master of Sci. in Research and Dev. Mgmt. Thesis, Air Force Inst. of Tech.), *available at* http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CGYQFjAB&url=http%3A%2F%2Fwww.dtic.mil%2Fdtic%2Ftr%2Ffulltext%2Fu2%2Fa535245.pdf&ei=k6OuT7rnNcLGtweow8HzCA&usg=AFQjCNFrzrGrKoLuS89K5mzO759p2TdqYA.

12 Pugliese, *supra* note 7.

13 *Earthbound*, THE ECONOMIST, Aug. 23, 2008, at 66.

14 Landry, *supra* note 11, at 2; Kusiolek, *supra* note 2.

15 Kusiolek, *supra* note 2.

16 50 App. U.S.C. § 2401.

17 22 U.S.C. § 2751.

18 *Id.*

19 *Id.* (emphasis added).

State and employed through the Department of Commerce via ITAR.[20] The ultimate purpose of ITAR is to "prevent sensitive technology from reaching parties hostile to the United States."[21]

Initially, the Department of Commerce maintained authority over the AEA, and thus, control of ITAR.[22] However, in 1999 ITAR authority was transferred to the Department of State due to mounting concerns for national security.[23] With this new authority, the Department of State now regulates the importation and exportation of technology and goods that may be used in hostility against the United States.[24]

With the transfer of control to the Department of State, Congress has, in effect, prioritized national security over economic growth and profitability. This may appear to have even been the intention of Congress. However, the smothering and overbearing effect on economics has not just moved profit concerns into a position of subordination, but has essentially pushed them to the sidelines.[25] This is evidenced by the widespread loss in domestic profits and market share.[26]

At the heart of ITAR is the USML and the ITAR licensing process. The USML is a list directly managed by the Department of Defense,[27] which contains twenty classifications of goods and technologies that require an approved export license.[28] To obtain an export license, one must first register with the Directorate of Defense Trade Controls[29] and then submit a license application.[30] The Department of Defense maintains a database of over ten thousand registrants used for tracking and enforcement.[31] Currently, to remove an item from the USML, the Secretary of Defense must grant approval and give thirty days advance notice to Congress.[32]

To be efficient and effective in the rapidly changing world of defense technology, the adaptability of the USML must not be bound by the slow and burdensome bureaucratic processes of typical government. As discussed in section II, it is American businesses that are bearing the cost of these burdens through increased compliance and planning expenses or losses in customers and market share. The next section of this article illustrates these effects and discusses how ITAR has affected domestic business' profits and trade relations.

II. FOREIGN AND DOMESTIC COMPETITIVENESS

The 1999 increases in ITAR compliance requirements have suppressed U.S. competitiveness in the technology, space, and defense industries. The hyper-restrictive nature of ITAR is encouraging foreign buyers to look elsewhere.[33] For example, between 1999 and 2006, sales of U.S. communication satellites fell by twenty percent resulting in nearly $2.5 billion in losses.[34] Moreover, illustrative of the growing foreign

---

20 SELECT COMMITTEE OF THE UNITED STATES HOUSE OF REPRESENTATIVES, U.S. EXPORT POLICY TOWARDS THE PRC 24 (May 21, 1999), *available at* http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CG8QFjAA&url=http%3A%2F%2Fwww.house.gov%2Fcoxreport%2Fpdf%2Fch9.pdf&ei=JqOuT4mEKYyTtwfn3_3zCA&usg=AFQjCNGhFYWo-U5lw0S82QCddkPIX9T_cw.

21 Landry, *supra* note 11, at 2.

22 Kusiolek, *supra* note 2.

23 *Id.*

24 Landry, *supra* note 11, at 2.

25 Kusiolek, *supra* note 2.

26 *Id.*

27 Landry, *supra* note 11, at 2.

28 22 C.F.R. § 121.

29 U.S. Department of State, Directorate of Defense Trade Controls, *Licensing*, EXPORTING REQUIREMENTS (May 12, 2012, 9:33 PM), http://www.pmddtc.state.gov/licensing/index.html; U.S. EXPORT POLICY TOWARDS THE PRC, *supra* note 21, at 29.

30 U.S. Department of State, *Licensing*, *supra* note 29.

31 U.S. EXPORT POLICY TOWARDS THE PRC, *supra* note 20, at 42.

32 U.S. EXPORT POLICY TOWARDS THE PRC, *supra* note 20.

33 Colitt, *supra* note 10.

34 Alan Taylor, *Defense Industrial Base Assessment: U.S. Space Industry Final Report*, Air Force Research Laboratory 15 (Aug. 2007), *available at* http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CB8QFjAA&url=http%3A%2F%2Fbeta-www.bis.doc.gov%2Findex.php%2Flicensing%2Fforms-documents%2Fdoc_download%2F38-defense-

movement away from ITAR regulated transactions, between 2009 and 2011 the United States' share in satellite manufacturing revenue suffered a further drop of twenty-seven percent.[35] While this is only an example of one focused industry, the waning of revenue, employment, competitive confidence, innovation, and trading competency is being felt across the entire defense and space technology spectrum.[36]

As expected with normal market conditions, a widespread drop in U.S. competitiveness creates market voids that allow other foreign States to move in, capitalize, and advance their own market positions. Adjunct Professor at the University of Phoenix, Richard Kusiolek, in his article *ITAR Dilemma: Finding the Balance Between Regulation and Profit*, lists some of the countries that are moving into these voids and taking advantage of the market opportunities.[37] Kusiolek argues that some countries, including "China, Pakistan, Russia, Canada, Brazil, Australia, France, the Republic of Korea, Ukraine, and Japan have grown their commercial space industries, while U.S. companies have seen dramatic losses in customers and market share."[38]

In fact, this pattern of foreign entities acquiring market share has actually resulted in the widespread foreign momentum away from reliance on U.S. components in foreign technology systems.[39] Some foreign states are opting to avoid ITAR altogether by completely foregoing the use of American-made components in their defense systems.[40] One example is Alcatel Space, a French satellite manufacturer that has replaced all of the U.S. components on its satellites with foreign components to avoid having to comply with ITAR.[41]

Kusiolek does proffer that ITAR isn't directly to blame for all of the loss in market share. He states that business outsourcing also plays a role.[42] However, is it reasonable to assume that the uncertainty, confusion, and complexity of being ITAR compliant may be at the base of business' decisions to outsource? It seems likely.

Several studies offer support that ITAR has a direct causal relation to the declining performance numbers of American firms. In 2008, the Center for Strategic and International Studies assessed several performance aspects of the United States' space industry.[43] This evaluation explained that the uncertainty and long wait times of the ITAR licensing process was negatively affecting industry confidence due to a loss of foreign sales and an increase in compliance costs.[44] Another study, done by the Institute for Defense Analysis in 2007, claimed that ITAR discourages U.S. firms from participating in R&D for the Department of Defense because of uncertainty, risks, and over-regulation.[45] Finally, in

---

industrial-base-assessment-of-the-u-s-space-industry-2007&ei=OkRfUI2QMoWQ9gTg6oFA&usg=AFQjCNGy4NvbzCbn8wonHOHjzpeAjjyrHw.

35 FUTRON CORP., *2011 State of the Satellite Industry Report Shows Further Growth in 2010*, Satellite Industry Association 2 (Jun. 2011), *available at* http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CB8QFjAA&url=http%3A%2F%2Fwww.sia.org%2FPDF%2FFINAL%2520Press_Release_State%2520of%2520the%2520Satellite%2520Report%25202011%2520JUNE%25202011.pdf&ei=8kdfUNEEg870BInggaAJ&usg=AFQjCNEaz4ZEfvX8b72tUhzUjDMnrYwn2g.

36 *Briefing of the Working Group on the Health of the U.S. Space Industrial Base and the Impact of Export Controls*, Center for Strategic & International Studies 32 (Feb. 2008), *available at* http://csis.org/publication/health-us-space-industrial-base-and-impact-export-controls; FUTRON CORP., *supra* note 36, at 1, 2.

37 *Id.*

38 *Id.*

39 Landry, *supra* note 11.

40 George Abbey & Neal Lane, *United States Policy: Challenges and Opportunities Gone Astray*, American Academy of Arts and Sciences 5 (2009), *available at* http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CB8QFjAA&url=http%3A%2F%2Fcarnegie.org%2Ffileadmin%2FMedia%2FPublications%2FPDF%2Fspace US.pdf&ei=rm1fUNK5Ooj68QTxyoCADw&usg=AFQjCNF-keECofsd9vxa5up0DizL8z-liQ.

41 Jeff Foust, *One Nation, Over Regulated: Is ITAR Stalling the New Space Race?*, NATIONAL SPACE SOCIETY (Aug. 7, 2008), http://www.nss.org/adastra/volume17/itar.html.

42 Kusiolek, *supra* note 2.

43 Center for Strategic & International Studies, *supra* note 36.

44 *Id.* at 32.

45 Richard Van Atta, *Export Controls and the U.S. Defense Industrial Base,* INSTITUTE FOR DEFENSE ANALYSES 4 (Jan. 2007), *available at* http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CB8QFjAA&url=

2009, a report conducted by the Office of Under Secretary of Defense claimed that companies are withholding their best innovations from the Department of Defense so that they can sell them privately at a more favorable price.[46]

With the effects of ITAR at the center of these studies, American business concerns have impacted U.S. confidence overall and encouraged foreign capabilities.[47] In fact, since the boost in ITAR compliance standards in 1999, the U.S. market share in the international space technology industry has declined by thirty-three percent.[48]

In 2010, then-Air Force Major, Kalliroi Landry also conducted a study. Landry submitted questionnaires to "any individual or group that participates in the United States space industry through some kind of interaction with ITAR."[49] 219 entities in total responded to the questionnaire portion of the study or were otherwise interviewed.[50] These groups spanned from government agencies involved in policy making to entities on both sides of private sector transactions.[51] Landry's study participants also included members from each tier of businesses.[52]

Space (and other) industry participants can be compartmentalized into three tiers based on the scale of products that they produce or where they participate within the stream of commerce. Tier 1 companies "sell end-products to commercial or government customers."[53] Tier 2 entities "provide major components and/or systems to Tier 1 companies."[54] Tier 3 companies "provide less complex components, sub-assemblies, structures, and materials."[55]

The chart below represents a tip-of-the-iceberg snapshot of Landry's research. The results have been separated into a "Consequences, Effects, and Desired Changes" format. This brief representation of Landry's study will shed light on the ultimate objective of this article—to address the consequences and effects of the current state of ITAR and recommending some changes desired by the defense and technology community at large. Recall that Landry had a total of 219 respondents.[56] However, not every respondent addressed every question.[57] The below percentages are only from the total number of responses to each *specific* question or set of questions.

---

http%3A%2F%2F www.acq.osd.mil%2Fmibp%2Fdocs%2Fida_study-export_controls_%2520us_def_ib.pdf&ei= onFfUIP5KJGo8QTXwICICg&usg=AFQjCNHRL2SFesa19RPuK61ybKigv0q7Pw.

46 OFFICE OF UNDER SECRETARY OF DEFENSE, *supra* note 8.

47 Landry, *supra* note 11, at 11, 24.

48 *Earthbound*, *supra* note 13.

49 Landry, *supra* note 11, at 28.

50 *Id.* at 30-31.

51 *Id.* at 28.

52 *Id.*

53 *Id.* at 31.

54 *Id.*

55 *Id.*

56 *Id.* at 30-31.

57 *Id.* at 51, 54, 66 (study findings were noted in percentage of total responses).

Consequences of ITAR	**% of Responses**
Increased Costs	52.94 %[58]
Timelines Too Long	47.06 %[59]
Encourage Foreign Competition	35.29 %[60]
Unable to Market or Sell to Foreign	29.41 %[61]
Stalls Communication	29.41 %[62]
Effects of ITAR	**% of Responses**
Continued Drawdown of U.S. Suppliers	47.06 %[63]
Limited Access to the Best Talent	35.29 %[64]
Foreign Approach to Export Controls Differs from U.S.	35.29 %[65]
Withdraw from the Space Industry	23.53 %[66]
Desired Changes to ITAR	**% of Responses**
Review and Revision of ITAR	41.18 %[67]
Update/Re-Focus Export Controls	35.29 %[68]
Clarify/Simplify the Language	23.53 %[69]

While this graphical depiction shows only a snapshot of the results most identified by respondents, it is illustrative of a common view among industry participants. In addition to the above, some numbers worth noting are:

- The top factor for foreign products being competitive is "Export Licensing Requirements" (follow by cost);[70]
- The top *five* recommendations to improve innovation in the space industry are directly related to changes, updates, or revisions to ITAR;[71]
- 51.91% suggested U.S. Government action to improve market competitiveness;[72]

58 *Id.* at 36.
59 *Id.*
60 *Id.*
61 *Id.*
62 *Id.*
63 *Id.* at 41.
64 *Id.* at 45.
65 *Id.*
66 *Id.* at 36.
67 *Id.* at 43.
68 *Id.*
69 *Id.*
70 *Id.* at 51.
71 *Id.* at 43.

- 88.52% gave ITAR related responses when asked about "Barriers to Entry into Foreign Countries."[73] This is opposed to a mere 2.73% of participants that claimed EU limitations as a barrier into a foreign country.[74]

Landry's research, however, also revealed some numbers that were inconsistent with the above trend. For example, only 5.88% of respondents predicted losing further business opportunities. However, not all of Landry's numbers take into account the differentiation between the tiers or size of companies. These are important distinctions because, as Landry herself stated, "[a]s a percent of foreign sales, the cost burden on Tier 3 companies is nearly eight times that of Tier 1 firms."[75] Therefore, answers to a question about ITAR compliance costs might be very different between Tier 1 and Tier 3 companies. One must also consider the advantages larger organizations hold over smaller entities. These advantages include legal counsel, dedicated legal departments, and funding available for ITAR training and compliance—all factors that enable larger firms to efficiently cope with the burdens of ITAR. Therefore, one must consider *who* is answering each question, and why.

Despite the elevated cost burden on Tier 3 companies, they invest a much higher percentage of internal funds into R&D and ITAR compliance as compared to Tier 1 companies.[76] Thus, the ability to grow by smaller firms that deal with USML goods is being restrained, while the larger firms are (relatively) more protected.[77] As a whole, however, the growth of U.S. companies has still been stifled, whereas foreign entities have collectively continued to progress.[78] Intensifying this effect on domestic profitability, lower-tier companies (Tier 3) are a paramount source of technology and innovation.[79] Thus, it is in the best interest of the United States to relieve these companies of the costly compliance burden and to nurture and promote the smaller firms, rather than hinder them.

Landry further explains that the punitive threat of noncompliance is so great[80] that U.S. firms are turning their innovative focus to other, less-regulated industries.[81] The penalties for being ITAR noncompliant are significant and readily assessed if proper measures are not followed. A single violation can significantly affect the operating expenses of smaller firms.[82] "Given the ease with which violations can occur, inadvertent violations by unaware companies and their officers can have drastic consequences."[83] ITAR language expressly states:

---

[72] *Id.* at 52.
[73] *Id.* at 54.
[74] *Id.*
[75] Center for Strategic & International Studies, *supra* note 36, at 33.
[76] Taylor, *supra* note 34, at 36; *See also* Guy Ben-Ari, et al., National Security and the Commercial Space Sector: *Initial Analysis and Evaluation of Options for Improving Commercial Access to Space*, CENTER FOR STRATEGIC & INTERNATIONAL STUDIES 26 (Apr. 2010), *available at* http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CCQQFjAB&url=http%3A%2F%2Fcsis.org%2Ffiles%2Fpublication%2F100430_berteau_commercial_space.pdf&ei=Y4BfUPW_BYre8ATP3IHoBw&usg=AFQjCNEFQuHL1ZSyl7Zdlcho7v4ty0ypbA (stating that while large firms can invest between 1.5 to 2 percent of their revenue on internal research and development, smaller firms can invest as much as 15 percent).
[77] Kusiolek, *supra* note 2.
[78] *Id.*
[79] *ITAR and the U.S. Space Industry*, Space Foundation 1 (2008), *available at* http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CB8QFjAA&url=http%3A%2F%2Fwww.spacefoundation.org%2Fdocs%2FSpaceFoundation_ITAR.pdf&ei=cYlfUKzpDoee8QS1tYHIBA&usg=AFQjCNFKKcjckKXfgJBmUrwbQfXzGb0Luw; *See also* Guy Ben-Ari, et al., *supra* note 77.
[80] Landry, *supra* note 11, at 39.
[81] *Id.* at 40.
[82] *ITAR Compliance*, ExportRules.com, (2011-12), *available at* http://www.exportrules.com/ (conducting a comparative analysis between sections "$50,000 in ITAR Fines," "ITAR Export Exemptions," and "*Export Enforcement Actions in 2007*").
[83] *Id.*

Any person who willfully [or criminally] violates any provision . . . or regulation . . . shall . . . be fined for each violation not more than $1,000,000 or imprisoned not more than ten years, or both[84] . . . the civil penalty for each violation . . . may not exceed $500,000.[85]

Smaller market participants, however, are not the only firms feeling these negative effects of ITAR. The penalties from ITAR violations are being applied across the board of space and defense industries. Despite being better "equipped" to handle ITAR's obstacles, large firms are also sustaining harsh penalties for noncompliance, including:

- Boeing – $32.2 million since 1998[86]
- Lockheed Martin – $17 million since 2000[87]
- L3 Communications – $1.5 million since 2006[88]
- Motorola – $750,000 since 2001[89]
- Northrup Grumman – $15 million since 2008[90]

Since the change in authority in 1999, there have been at least twenty-nine reported incidences of noncompliance, all resulting in heavy penalties.[91] This is compared to only twelve in the prior twenty-two years.[92]

In addition to purely monetary penalties, actual compliance costs can detract significantly from profits or cash available for reinvestment. Compliance expenses can include licensing fees, training, dedicated compliance personnel, and legal fees. Administrative penalties can further include the prevention of the exportation of goods, interim suspensions, and seizures of goods and transportation vessels.[93] If a company believes that it may have violated one of ITAR's provisions, its best course of action may be to submit a voluntary disclosure. Under 22 C.F.R. § 127.12, a company's voluntary disclosure can serve "as a mitigating factor in determining the administrative penalties, if any, that should be imposed."[94]

---

84 22 U.S.C. 2778(c) (emphasis added).

85 22 U.S.C. 2778(e) (emphasis added).

86 U.S. Department of State, *Consent Agreements, 2008: The Boeing Company,* DIRECTORATE OF DEFENSE TRADE CONTROLS (Jan. 21, 2009), http://pmddtc.state.gov/compliance/consent_agreements/BoeingCompany.html.

87 U.S. Department of State, *Consent Agreements, Lockheed Martin Corporation*, DIRECTORATE OF DEFENSE TRADE CONTROLS (Jan. 21, 2009), http://pmddtc.state.gov/compliance/consent_agreements/LockheedMartinCorp.htm.

88 U.S. Department of State, *Consent Agreements, 2006: L-3 Communications Corporation/L-3 Titan Corporation*, DIRECTORATE OF DEFENSE TRADE CONTROLS (Jan. 21, 2009), http://pmddtc.state.gov/compliance/consent_agreements/L3communications.html.

89 U.S. Department of State, *Consent Agreements, 2001: Motorola Corporation*, DIRECTORATE OF DEFENSE TRADE CONTROLS (Jan. 21, 2009), http://pmddtc.state.gov/compliance/consent_agreements/MotorolaCorp.htm.

90 U.S. Department of State, *Consent Agreements, 2008: Northrop Grumman Corporation,* DIRECTORATE OF DEFENSE TRADE CONTROLS (Jan. 21, 2009), http://pmddtc.state.gov/compliance/consent_agreements/NorthropGrummanCorp.htm.

91 U.S. Department of State, *Consent Agreements,* DIRECTORATE OF DEFENSE TRADE CONTROLS (Jan. 21, 2009), http://pmddtc.state.gov/compliance/consent_agreements.html.

92 *Id.*

93 U.S. EXPORT POLICY TOWARDS THE PRC, *supra* note 20, at 44.

94 C.F.R. 22 § 127.12.

These penalties and burdens on U.S. firms are not going unrecognized, nor are they something that has appeared overnight. So why does it appear that the Federal government is remaining passive and allowing these burdens to continue by moving very slowly, if at all, to relieve American manufacturers, innovators, and trading partners from the strain of ITAR? Consider the mission statement for the export control laws, and it becomes clear:

> "The U.S. Government views the sale, export, and re-transfer of defense articles and defense services as an integral part of *safeguarding U.S. national security* and furthering U.S. foreign *policy* objectives."[95]

The federal government has indubitably prioritized national security and policy over economic growth.[96] The aforementioned studies show a correlation between ITAR compliance and the United States' declining foreign market position.[97] With the weakening of U.S. competitiveness, foreign entities are capitalizing on new market voids. International market shifts like these can lead tangentially to other concerns—such as the deterioration of national security. The next section will address national security and American foreign relations concerns that have arisen from the increase in ITAR compliance requirements.

III. DOMESTIC NATIONAL SECURITY AND FOREIGN RELATIONS

The heightening of ITAR compliance standards was carried out because of growing Congressional concerns of threats to national security.[98] At the genesis was the failed 1996 launch of a Chinese "Long March Rocket."[99] In the most simplistic recount of the incident, the approval of the export license for the rocket, built by a U.S. company, Space Systems/Loral ("Loral"), had faced significant criticism.[100] When the launch failed, the criticism materialized into fears that American secrets had been passed to the Chinese[101] and Loral was ultimately charged with a violation of the AEA.[102]

This controversy led to concerns of exploitable weaknesses in the American export policy—the potential for breaches in national security. As previously mentioned, in 1999 Congress reactively authorized the lateral transfer of the ITAR regulatory authority to the Department of State.[103] This transfer is important when one considers the Department of State's natural inclination toward national security over that of the Department of Commerce. The transfer has effectively enabled the prioritization of national security over economic growth and profitability. Ultimately, this transfer of ITAR authority—designed to *curb* any weakness in national security—has de-prioritized economic growth to such an extent that the U.S. security shield has been thinned. As mentioned, the increase in ITAR compliance requirements has encouraged foreign States to move away from engaging the United States in trade and collaborative research efforts, thereby decreasing the American technology advantage.

The ostracization of the United States from development projects encourages other nations to collaborate in R&D efforts that would otherwise have included the United States. This gives these foreign entities access to information, which under different circumstances would have been privileged to the U.S. and its partners.[104] The included foreign nations also gain the opportunity to profit from these projects,[105] representing another important opportunity lost by the United States.

---

[95] U.S. Department of State, *Mission*, DIRECTORATE OF DEFENSE TRADE CONTROLS (Jan. 21, 2009), http://pmddtc.state.gov/index.html (emphasis added).
[96] Kusiolek, *supra* note 2.
[97] Landry, *supra* note 11, at 2; *ITAR and the U.S. Space Industry*, *supra* note 79; Taylor, *supra* note 34; Center for Strategic & International Studies, *supra* note 36 at 33.
[98] Kusiolek, *supra* note 2.
[99] *Id.*
[100] *Id.*
[101] *Earthbound*, *supra* note 13.
[102] Taylor Dinerman, *ITAR's Failure*, THE SPACE REVIEW (Mar. 17, 2008), http://www.thespacereview.com/article/1086/1.
[103] Kusiolek, *supra* note 2.
[104] Landry, *supra* note 11.

Stemming from frustrations with ITAR, foreign sellers of space and defense technologies now actively avoid the United States, preferring other, more cooperative buyers. This affords American competitors and enemies the opportunity to acquire the newest in technologies. By the very nature of their policy, some of these buyers pose potential threats, in clear adversity to American national security policy. These are the very security threats that Congress attempted to minimize in 1999 with its revisions of ITAR. Moreover, with the growing momentum away from American technology, the United States loses the advantage of having firsthand knowledge and expertise of the leading technologies around the world. This can lead to significant inadequacies in the United States' ability to defend itself, while also undermining the United States' ability to innovate, attract foreign customers,[106] and collaborate with foreign entities.

ITAR is also affecting established relationships with friendly foreign states. "*Frustrated*" accurately describes the international sentiment toward ITAR. For example, in 2010, Canada withdrew from using certain American-built parts when modernizing key systems on its naval fleet.[107] This decision came about when the Canadian navy was "faced with delays and restrictions [from the United States] about what it can and cannot do"[108] in upgrading some of its systems. The United States' northern neighbor expressed its desire to be free from bureaucratic restriction or having to seek permission from the United States when looking to upgrade, repair, or modify its systems.[109]

As a result, and to the detriment of U.S. technology firms, "the [new Canadian] command-and-control system will be free of any U.S. export controls."[110] On its face, this may appear to be merely an isolated instance of economic loss. However, the Canadian withdrawal from American components in this instance is only one example of many ITAR-related hold-ups and restrictions for U.S. equipment and technology into Canada.[111] It is further illustrative of the shift away from U.S. parts that is growing outside American borders.[112] In short, this is not an isolated incident.[113]

With the exclusion of the United States from the Canadian sale, Canada turned to a collaboration of foreign firms (representing Sweden, Israel, Germany, and the Netherlands) to develop the naval system.[114] These foreign companies can now market the new system to other entities, without American oversight. The negative effects of this exchange can include, i) an economic boost for foreign firms, ii) the access of cutting-edge technology by adverse entities, and iii) lost American opportunities to collaborate,[115] profit, and control access. This scenario exemplifies the potential depth of losing more and more technology opportunities due to the growing global frustration with ITAR compliance.[116]

Thales, a global leader in the aerospace, transportation, and defense and security markets, reported a "spike in desire for ITAR-free equipment . . . from military forces around the world."[117] The strain from ITAR even has Britain, America's most important global defense partner, frustrated.[118] So much so that the

---

[105] *Id.*
[106] Colitt, *supra* note 10; *F35 Joint Strike Fighter: 2009-2010*, DEFENSE INDUSTRY DAILY (Jan. 08, 2011 11:05 AM), http://www.defenseindustrydaily.com/F-35-Lightning-The-Joint-Strike-Fighter-Program-2012-07501/; Pugliese, *supra* note 7.
[107] Pugliese, *supra* note 7.
[108] *Id.*
[109] *Id.*
[110] *Id.*
[111] *Id.*
[112] Landry, *supra* note 11.
[113] *See Earthbound*, *supra* note 13, at 66-67 (stating that after 1999, projects between the U.S. and Canada fell significantly and that European officials further "cited export controls as a reason for avoiding anything to do with America wherever possible.").
[114] Pugliese, *supra* note 7.
[115] *Id.*
[116] *Id.*
[117] *Id.*
[118] *UK Warns USA Over ITAR Arms Restrictions*, DEFENSE INDUSTRY DAILY (Dec. 01, 2005, 10:00 AM), http://www.defenseindustrydaily.com/uk-warns-usa-over-itar-arms-restrictions-01549/.

Defense Industry Daily, a UK defense publication, analogized Britain's growing resentment towards ITAR to the Boston Tea Party.[119]

During the Clinton administration, the United States ensured that Britain would receive a waiver around the difficult ITAR licensing process, giving it access to U.S. defense technology.[120] Years later, at the end of George W. Bush's first term, Britain had still not received the waiver and was understandably "becoming increasingly angry."[121] Exacerbating this resentment, Britain at the time was fighting alongside America in the Operation Iraqi Freedom conflict.[122]

During wartime, sharing technology holds a unique and critical function in the interoperability among allies.[123] The Defense Industry Daily reported, "British and Australian officers serving in Iraq alongside the United States [were] sometimes barred from operations briefings because they aren't cleared to receive [the] information."[124] One can imagine the embarrassment and irritation between battlefield counterparts, notwithstanding the potentially fatal interference with the efficiency and efficacy of wartime operations. To illustrate the breadth of ITAR's negative operational effect, ITAR restrictions were applied to:

> "furnishing of assistance, including training to foreign persons in the design, engineering, development, production, processing, manufacture, use, operation, overhaul, repair, maintenance, modification, or reconstruction of defense articles, whether in the United States or abroad" or furnishing of technical data."[125]

Therefore, not only must the United States' battlefield allies cope with the hardships of war, they must also struggle against the bureaucratic difficulties of ITAR as well. Yet ITAR remains uncompromising in joint operations. Accordingly, United States' wartime co-operators may be left with inclinations of distrust and resentment[126] as they are working with a partner who asks for help, then "pushes back" in resistance.

ITAR frustration between allies also extends beyond the battlefield. In one deal, between the United States and Britain and described as "the largest single global defense program in history," Britain encountered ITAR resistance in the sharing of technical information with the United States.[127] The deal, valued at $382 billion, was aimed at supplying fighter jets to the United States, Britain, and other countries.[128] After the withholding of certain information, a British defense committee demanded assurance from the United States that all technical information regarding the project would be provided to Britain by the end of the year, or threats of Britain not buying into the project may materialize.[129] While this disconnect was eventually settled, it serves as another example of a growing resentment between the United States and its closest allies, rooted in ITAR.

Brazil has also made strategic decisions to avoid the United States in defense partnerships and deals.[130] In 2010, Brazil chose the more expensive French Rafale jet over Boeing's cheaper F-18, despite both planes meeting all of Brazil's requirements.[131] When considering market norms, this decision is counterintuitive. Given perfect substitutes, a rationale consumer should choose the cheaper alternative. However, Brazilian Defense Minister Nelson Jobim expressed the nation's concern with America's history of sensitive

---

[119] *Id.*
[120] *Id.*
[121] *Id.*
[122] *Id.*
[123] *Id.*
[124] *Id.*
[125] *Id.*
[126] *Id.*
[127] DEFENSE INDUSTRY DAILY, *supra* note 106.
[128] *Id.*
[129] *MPs Warn Over U.S. Fighter Jet Deal*, BBC NEWS (DEC. 8, 2006, 11:47 AM), http://news.bbc.co.uk/2/hi/uk_news/politics/6219122.stm.
[130] Colitt, *supra* note 10.
[131] *Id.*

technology embargoes and that "the United States Government could give no upfront guarantee" that another technology embargo would not occur.[132] Brazil President Luiz Inacio Lula da Silva stated that the "choice was not technical but political and strategic."[133] This deal amounted to thirty-six fighter jets, valued at over four billion dollars,[134] and a lost opportunity for the U.S. to develop a working relationship with a worthy ally and promising economy. It further represents another example of the United States losing opportunities to be involved in a global defense deal.

Along Brazil's northern border lies Venezuela, which represents a more hostile example of the foreign effects of ITAR. While Venezuela is a major supplier of oil to the United States,[135] there is a long history of turbulent relations between the two nations. Nevertheless, in 1983, the United States sold Venezuela a fleet of F-16 fighter jets.[136] In response to a U.S. ban on arms sales, in 2006 Venezuela threatened to sell the fleet of F-16's to Iran.[137] In actuality however, it had been some time that Venezuela was considering options for replacing this fleet due to long-standing frustrations with ITAR.[138] After the 1999 increase in ITAR restrictions, the United States halted the sale of replacement parts and upgrades for the jets, thus prompting Venezuela's desire to sell the fleet.[139] In addition to selling the jets to Iran, Venezuela had also considered China and Cuba.[140] Moreover, Venezuela was considering replacing the F-16 fleet with a new fleet of state-of-the-art Russian Sukhoi Su-35 jet fighters.[141] This represents lost American opportunities both to profit *and* retain control of the technology in use by a foreign nation. Of course, the latter represents a serious potential threat to the security of the United States.

Meanwhile, as historically hostile Venezuela is contemplating *increasing* its arms capabilities with state-of-the-art foreign technology, American defense companies are *withholding* their best products from the federal government in the hope of simply avoiding engagement with ITAR.[142] Further threatening the national security of the United States, the withheld American technology is being sold on the open market depriving the U.S. government of that technology and providing foreign entities the opportunity to obtain it.[143]

Finally, American educational institutions are also suggesting that ITAR is keeping bright foreign students from coming to the United States to study; minimizing foreign contribution to domestic research and innovation.[144] An assessment done at MIT shows a correlation between simultaneously increased ITAR and visa requirements, and a significant decline in foreign student enrollment in American universities.[145] If capable foreign students are being kept from contributing to American research and innovation, they may seek this opportunity elsewhere and, to that end, contribute to the intellectual capital pools of foreign entities.

These examples are illustrative of how ITAR is *contributing* to the threat of the United States' national security. The 1999 changes to ITAR—originally designed to make the United States more secure—have frustrated the United States' allies, alienated it from international defense collaborations, and angered other

---

132 *Id.*
133 *Id.*
134 *Id.*
135 U.S. Energy Information Administration, *Crude Oil and Total Petroleum Imports Top 15 Countries*, INDEPENDENT STATISTICS & ANALYSIS (Nov. 2011), http://www.eia.gov/pub/oil_gas/petroleum/data_publications/company_level_imports/current/import.html.
136 Associated Press, *Venezuela Threatens to Sell F-16 Fleet to Iran*, FOX NEWS (May 16, 2006), http://www.foxnews.com/story/0,2933,195672,00.html.
137 *Id.*
138 *Id.*
139 *Id.*
140 *Id.*
141 *Id.*
142 OFFICE OF UNDER SECRETARY OF DEFENSE, *supra* note 6.
143 *Id.*
144 David A. Broniatowski, Nicole C. Jordan, Andrew M. Long, Matthew G. Richards, and Roland E. Weibel, Note, *Balancing the Needs for Space Research and National Security in the ITAR,* 6 AMERICAN INSTITUTE OF AERONAUTICS AND ASTRONAUTICS, *available at* http://web.mit.edu/mgr/www/Portfolio/Balancing%20the%20Needs%20for%20Space%20Research%20and%20National%20Security%20in%20the%20ITAR.pdf.
145 *Id.*

foreign States. In essence, by shifting the focus of ITAR solely to national security, both economic competitiveness *and* national security have suffered.[146] The next and final section will suggest changes and solutions to the current state of ITAR and propose recommendations that will lead to favorable compromises between national security, foreign relations, and economic growth.

IV. RECOMMENDATIONS

Many industry participants and evaluators have suggested changes to ITAR to give the United States a boost in market competitiveness.[147] However, there seems to be a commonality between the suggestions; a focus on "patchwork regulation." Patchwork regulation is the idea of regulation-on-top-of-regulation to solve a problem. But patchwork regulation may only solve temporary and symptomatic issues. In a case such as this, however, it does not resolve a fundamentally flawed system. For example, Landry and her respondents' primary suggestion was an update of the USML.[148] While this recommendation will relieve a limited number of items from the restrictive grip of the USML, making the trade of those goods easier for certain organizations, it will do so only until the next evolution in technology. Instead, given the necessity for a long-term, effective solution, a more holistic approach is needed. Here, the big picture must be considered. This is not to say that the United States must scrap the entire body of current export control laws, but a multi-faceted approach is warranted.

United States Air Force Major General Robert Dickman, the Executive Director of the American Institute of Aeronautics and Astronautics, understands this. In a similar effort as this article—the provocation of revisions to legislation *and* policy—Dickman delivered a testimonial to the U.S. House of Representatives Committee on Science and Technology and suggested changes to aid in the economic recovery of the relevant technology industries.[149]

In his testimony, Dickman suggests a system based on "*by exception*" as opposed to the current "*by approval*" method.[150] A "by approval" regulatory system is the practice by which prior to any trade over international borders, a good or technology must be approved by an authority. As applied here, this system has shown to be cumbersome and detrimental. In contrast, a "by exception" system encourages the freedom of general trans-border trade but still affords regulators the power to prevent the flow of select goods or technologies (the exceptions).[151] A "by exception" system promotes collaboration, partnerships, trading, and profitability. A new regulatory framework should be one that *encourages* robust, economic growth while at the same time, continuing to advance national security. The following recommendations seek to do just that.

USML REVISION(S)

In his testimony, Dickman lays the groundwork for several necessary and essential considerations on how to improve industry profitability.[152] However, for the United States to realize a significant and *permanent* growth in market share and profitability, policy makers must go further than Dickman's recommendations. Initially the most common and obvious recommendation, as many suggest, is an update

---

146 Kusiolek, *supra* note 2.
147 Landry, *supra* note 11, at 53.
148 *Id.* at 67.
149 Maj. Gen. Robert Dickman, Executive Director, The Am. Inst. of Aeronautics and Astronautics, Testimony to the Comm. on Sci. and Tech., U.S. House of Representatives: Impacts of U.S. Export Control Policies on Science and Technology Activities and Competitiveness (Feb. 25, 2009), *available at* http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CFIQFjAA&url=http%3A%2F%2Fwww.aiaa.org%2FuploadedFiles%2FIssues_and_Advocacy%2FNational_Security%2FITARTestimony022509.pdf&ei=VyC8T6LkFY2c8QTkyKQY&usg=AFQjCNEsj5ORYf6mIF3SAIgd0-U4KEQcnQ.
150 *Id.*
151 *Id.*
152 *Id.*

of the USML.[153] Dickman correctly claims that "one of the problems with the current list is that [it] has not been examined *comprehensively* since [its] inception."[154]

Both Dickman and Landry call for each item on the USML to be evaluated.[155] At the most basic level, some USML items are readily available elsewhere, thus any justification for inclusion on the list is moot. In other area's, foreign technology has been shown to outperform U.S. innovation.[156] Again, with even more sophisticated products readily available elsewhere, the United States should not withhold its own products from trade on the sole basis of national security. Finally, items with outdated defense uses that can now only be used in commercial ways do not pose a threat to national security and thus, should also be excluded from the restrictive scrutiny of the USML.

Remaining items deemed to be defense-orientated or dual-use should next be evaluated. The intended goal for these items is to, *if appropriate*, permit a less stringent licensing process. Factors to be considered include the entity to which the item is being exported, the level of availability of the item elsewhere, or a collective analysis as to how significant this item is as a part of a sensitive United States defense or munitions system.[157] In addition to an initial evaluation, Dickman suggests continued periodic reexaminations of the USML with subsequent revisions following every twelve months.[158] Given the ever-changing environment of the technology industry, continuous USML revisions are critical.

In sum, there is an accumulation of components on the USML that lack the sufficient rationale to justify restriction.[159] To that end, the re-evaluations of the USML are the "quick-fix" that can help American companies in the short-term. Future revisions will become less laborious as the USML is trimmed down to accommodate the new ultimate objective of ITAR—boosting market competitiveness *while* maintaining robust national security.

TRANSPARENCY

Transparency of the administration and application of ITAR must increase so that firms may plan efficient business models. The aforementioned revisions of the USML will only allow firms to realize immediate results. However any long-term benefits may stop there, as much of the confusion and frustration regarding ITAR compliance will still be present. With technology industries constantly evolving, what might equate to profitability now may not in the near future. Therefore increasing transparency, by publishing the "constants" of the regulatory system, will be critical to regaining market superiority. For example, currently "[t]here is . . . a lack of explanation for how a component is evaluated for export release and how decisions are made in the certification process," states Dickman.[160] The ITAR regulatory authority must establish and publish a standard for future reevaluations. Frequent and continued reevaluations of the USML will only complicate both innovative and sales planning for market participants if there are incessant surprises as to what is included or excluded from the USML. A published standard will eliminate this.

LONG-TERM INVESTMENT

Next, there are several problems with simply revising the USML and increasing transparency. The necessity for long-term and permanent growth requires more than just regulatory and policy changes. As with any business, permanent and effective growth also requires investment.

---

[153] Dickman, *supra* note 149; Landry, *supra* note 11, at 15, 43, 67.
[154] Dickman, *supra* note 149 (emphasis added).
[155] Dickman, *supra* note 149; Landry, *supra* note 11, at 42-43.
[156] Dickman, *supra* note 149.
[157] This list is not intended to be exhaustive.
[158] Dickman, *supra* note 149.
[159] *Id.*
[160] *Id.*; *see also* Landry, *supra* note 11, at 16 (discussing the uncertainty among U.S. firms of "possible licensing requirements").

First, an increase in human capital should be considered to bolster the ITAR administrative and licensing office. In recent years, the licensing office has been "streamlined" to make it more efficient.[161] However, like with any business trying to expand, a growth in administration cannot go overlooked. Initially, greater manpower will be needed to conduct a reexamination of the USML. A team should then be established to continue reevaluations and that would also act as a liaison between ITAR's administrative processes and industry participants.

As previously mentioned, small companies and foreign buyers/sellers are losing both time and money navigating their way through the export control laws. Rather than continuing to push all of the expense onto these entities, a greater return on investment may be realized by employing experts in the ITAR control and licensing office who can serve in both advisory and consulting capacities.

In conjunction with transparency, a practical understanding must be readily available to market participants. In this period of regrowth, it is critical that companies and foreign entities have free or inexpensive access to an easy understanding of ITAR's processes. An increased staff will ease the compliance process for inquiring entities or simply aid in a seamless transition for new participants into the system. Here, new entrants are critical for regaining market share and their ability to work smarter through transparency is their greatest tool. The more transparent a system is, the less ambiguity is faced within the market and the easier it is for market participants to implement ITAR-compliant business models. Less ambiguity also leads to proper planning and ultimately will allow significant savings of time, frustration, and compliance related expenses. This can all be accomplished with an investment in administrative staff, which can then aid in a global understanding of ITAR.

Dickman also recognized a significant need for reinvestment in the United States' R&D facilities. Reinvestment in research facilities must not be limited to only domestic development, however, but also for the purpose of attracting foreign researchers and innovators.[162] "Nations no longer need to come to the United States for [its] knowledge, facilities, or technology because of [its] restrictions," states Dickman.[163] The goal is to encourage foreign minds to physically come to the United States and collaborate with American researchers in American facilities. By promoting the collaboration of research efforts on American soil, partnerships can further be developed for American benefit. Additionally, one can expect the growth in collaboration to yield an increase in the sophistication, quality, and breadth of ideas and products developed within the United States.

Finally, an "industry infrastructure reinvestment" is not as simple as approving generous funding for modern equipment and facilities. Applying capital to infrastructure is useless without a competent workforce to maximize the value of the infrastructure investment. Therefore, scientists, students, innovators and other manpower must be available to employ these resources for the American global advantage. A need for bright minds, both foreign and domestic, leads to the next recommendation—a change in American visa policy to attract foreign intellect to the United States.

POLICY CHANGES TO ENCOURAGE GROWTH IN INTELLECTUAL CAPITAL

Currently, American participants in global defense technology industries are, in one form or another, losing competitive ground on the international stage.[164] Dickman accurately states that "[w]e need to develop policies that allow and encourage U.S. researchers [and innovators] to talk and share ideas, findings, and recommendations without a fear of violating U.S. trade policy."[165] Therefore, in addition to a monetary investment in infrastructure, there must be an accompanying investment in human capital. The first step involves a boost of domestic human capital in research, education, and innovation.

---

[161] Dickman, *supra* note 149.
[162] *Id.*
[163] *Id.*
[164] *Id.*
[165] *Id.*

Second, a controlled relaxation in American visa policy will allow promising foreign intellect—notably, foreign students and professors—to come to the United States and work in collaborative efforts.[166] A focused relaxation of the visa policy in conjunction with the reinvestment in the R&D infrastructure will naturally encourage foreign students and professors to study and teach at American universities.[167] Increasing student diversity in America's educational institutions can also foster early relationships between American and foreign students and set a stage for the sharing of ideas during the most basic levels of research and education. Additionally, it will enlarge the available talent pool that will subsequently flow into the working industry after post-secondary education.[168] As an aside, if talented foreign students are studying in America, they will not be contributing to foreign competitors' up-and-coming intellect pool.[169] Finally, foreign professors who come and teach will bring with them different perspectives and thus afford America's students the benefit of a more expansive breadth of scientific and innovative theory and application.

EXPEDITIOUS DEALING WITH PREVIOUS TRADING PARTNERS OR FRIENDLY ENTITIES

Beyond updating the USML, the licensing of transactions for entities with which an extensive positive trading history has been established should be handled expeditiously and on a less intrusive and instigative scale. A few obvious examples include, but are not limited to, Britain, France, and Canada. This is not to say that no restrictions should be placed on transactions with these entities at all. However, the relationship and trading frequency between with these foreign states and the United States should be recognized, if not for the sake of partisanship, than for economy. For example, a preliminary investigation may be completed and deemed sufficient to serve for a set number for future transactions. That preliminary investigation may be renewed annually, or as otherwise needed.

COLLECTIVE LICENSING

The ITAR authority might also consider "collective" company licenses for reputable and established firms. Such licenses may govern a set or subset of similar items and allow specific trading activity without individualized approval for each item. Specific company licenses can be tailored as narrowly or as broadly as is appropriate. "Collective licensing" will relieve the laborious process of investigating and issuing many individualized licenses. This form of licensing will aid all parties to the transaction, including the licensing office. To that end, collective licensing will promote company savings by cutting down on administrative expenses as well as promoting the efficacy of the licensing office by further streamlining the efficient use of human capital.

GRANTS OR TAX INCENTIVES

Next, grants or tax incentives may be considered for smaller firms trying to maintain or establish a presence in an industry. It has been discussed, that by the very nature of being a smaller company, these firms can have difficulty remaining ITAR compliant.[170] Common characteristics of smaller entities that aid in the difficulty of being ITAR compliant include a lack of legal counsel, dedicated legal departments, or funds for employee training and compliance. This is a significant concept that should not go overlooked as lower-tier companies provide significant innovation in both niche and larger technology markets.[171] Grants to help relieve the burden of compliance expenses can help smaller firms return to their specialties and again rise to the level of competitiveness that has been seen in the past.

---

[166] *Id.*
[167] *Id.*
[168] *Id.*
[169] *Id.*
[170] Landry, *supra* note 11, at 11, 44, 52; Dinerman, *supra* note 102.
[171] *ITAR and the U.S. Space Industry*, *supra* note 79.

Moreover, incentives for companies who plan and enter into trade contracts early might be considered. Early contracting promotes both time and money savings by enabling ample time for the government to complete any administrative needs without delaying transactions. Monetary incentives can reward early contracting, thereby decreasing the risk of either party abandoning the transaction later on. Thus, this can help to lock in business and promote future trading relations. Finally, other grants or tax incentives might be acknowledged for those transactions that serve state interests.

POST-EXPORTATION TRADING FREEDOM

Revisions to *pre*-exportation policy are not the only changes to be considered. Certain actions by the ITAR authority *after* exportation of the original item can continue to aid in the profitable operations of domestic firms.[172] For instance, allowing the license-free exportation of replacement components for systems that have already been approved and exported would encourage both efficient and profitable trade practices. This can also be applicable to the modification and upgrade of systems[173] as well, although some newly developed replacement components of sensitive, pre-existing systems may still warrant individual investigation. Ultimately, however, allowing simple replacement parts and certain upgrade components to leave the country unobstructed can benefit future business operations without threatening national security.

AUTOMATION OF ITAR ADMINISTRATION ON INDUSTRY SIDE

The final recommendation of this article requires action on the part of industry participants—the automation of ITAR compliance administration. An efficient and effective regulated trade system requires cooperation on both sides—government and industry participants. Both Microsoft and Enterprise Content Management have developed compliance software systems that streamline ITAR compliance administrative tasks for business and research entities.[174] These systems aid in the minimization of company costs while maximizing the use of company time. Additional benefits include the acceleration of processing and the elimination of both redundant tasks and dependencies on personnel. The implementation of systems such as these throughout the industry will harmonize its participants, compliment government regulatory improvements, and yield an ITAR framework that promotes both national security and profitable trade practices.

In sum, changes to the ITAR framework and its effects on both global and domestic trade and innovation must be considered. Considerations however, must go beyond a mere revision of the USML and ITAR framework where many suggestions stop. The foregoing recommendations, if taken together, provide the holistic approach necessary to regain long-term and robust market superiority for American business while maintaining dependable national security.

CONCLUSION

"In the production of its 787 and B-2 'Stealth Bomber,' Boeing had to take drastic measures and backtrack some of its technology, at great expense, due to ITAR concerns."[175] This article has focused on these concerns, where significant economic shortcomings have been compelled by current ITAR requirements. The 1999 increases in ITAR compliance were predicated on heightened concerns of national

---

[172] Dinerman, *supra* note 102.

[173] *See* Pugliese, *supra* note 7.

[174] MICROSOFT OFFICE 365 ITAR, http://www.microsoft.com/en-us/download/details.aspx?id=23910 (last visited Oct. 17, 2012); ITAR AND EAR COMPLIANCE WITH EMC DOCUMENTUM, http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&sqi=2&ved=0CE0QFjAC&url=http%3A%2F%2Fwww.emc.com%2Fcollateral%2Fsoftware%2Fsolution-overview%2Fh4571-itar-so.pdf&ei=CFV_UOD_B42C9QTYo4GYDA&usg=AFQjCNEyMWpKSEG53AzC-YMe12O5oxuJSA (last visited Oct. 17, 2012).

[175] Dominic Gates, *Separation anxiety: The wall between military and commercial technology*, SEATTLE TIMES AEROSPACE REPORTER (Jan. 22, 2006), http://seattletimes.nwsource.com/html/businesstechnology/2002754224_boeingitar22.html.

security. However, this left critical goals, such as industrial growth and profitability, as inferior objectives. The effects of the ITAR revisions have now come full circle and actually detracted from the stability of the United States' national security. The revisions empowered foreign entities, augmented their technological capabilities, and increased the potential for adverse actions against the United States.

Economically, the revisions have increased both transaction costs and times, hindered the ability to grow a business, and relinquished profitable opportunities to foreign entities.[176] Moreover, the hyper-restrictive nature of ITAR has lead to a costly foreign "ITAR-free" movement away from American products.[177] The ITAR framework must be reevaluated and ultimately, changes must be made.

This article preliminarily suggests a revision of the USML relieving many items of the need for individualized approval. Subsequent USML revisions must continue for the legislation to remain up-to-date and in support of U.S. competitiveness. Also accompanying these revisions must be transparency and an established standard of the revision process. Established USML revision factors will allow firms and research entities to effectively plan compliance into their business operations.

Next, the United States should consider "collective licensing" and expedited, less-inquisitive investigations for entities with an established trading history and similar economic and social outlooks. In conjunction with this idea is the automatic approval of replacement parts or (some) upgrades for systems that have already been exported to an end buyer. This will foster relationships, promote future business, and reduce wasteful licensing and frustration over wait times. On the company side, implementing automated ITAR software can further decrease redundancy while boosting accuracy and trim expenses.

Next, grants and tax incentives should be considered for smaller to medium size firms in an effort to ease their burden of compliance. Providing grants or other financial relief, will enable smaller firms to remain competitive and grow within their respective industries. Alongside direct federal relief, Congress must also consider reinvestment into the R&D infrastructure. Government contribution in this area will again modernize the nation's testing and science facilities, thus attracting foreign scientists, researchers, and developers.

Finally, a controlled relaxation of visa policy will allow promising foreign students and professors to come study and teach, respectively, at American universities. Lifted visa restrictions will also enable desirable researchers and innovators to retain a permanent or long-term working status for which to build working relationships with their American colleagues. Ultimately, this will promote foreign collaboration, broaden domestic opportunities to earn profit, and nurture a broader pool of promising student intellect from which to employ in future development projects.

The need for significant change to current export control policy is evidenced by the severe domestic shortcomings in today's global markets. A holistic reevaluation and advancement of ITAR and export control policy is necessary to regain the lost superiority by American firms in the defense and technology industries. Implementing the foregoing changes to the ITAR framework and beyond, national security can remain strong without having to sacrifice robust economic competitiveness in global markets.

---

[176] Landry, *supra* note 11.
[177] Abbey, *supra* note 40; Ben-Ari, et al., *supra* note 76, at 23, 30.