



**PREPARED STATEMENT FOR THE RECORD OF  
INTEL CORPORATION**

**For the**

**UNITED STATES SENATE COMMITTEE ON FINANCE**

**On**

**THE ROLE OF TRADE AND TECHNOLOGY IN  
21<sup>ST</sup> CENTURY MANUFACTURING**

**July 17, 2014**

Intel Corporation respectfully submits this statement for the record in conjunction with the Senate Finance Committee's hearing on The Role of Trade and Technology in 21<sup>st</sup> Century Manufacturing. Our statement will focus on the importance of increasing market access overseas as a way to create and maintain U.S. manufacturing jobs. This objective is critical to the continued growth and leadership of the United States, and must be a top priority as U.S. industries face escalating competition overseas and an increasing number of governments strike preferential trade deals with other significant economies. Open and robust trade has proven time and again to improve economic welfare globally.

The U.S. government can increase market access for U.S. companies in three important ways: (i) expand existing free trade agreements (FTAs) so they cover more markets and additional goods and services; (ii) negotiate additional robust FTAs on an accelerated basis; and (iii) use a combination of mechanisms (e.g., modernized agreements and promotion of best practices) to address emerging non-tariff barriers not covered by existing trade rules. These three recommendations are dealt with in detail in Sections III, IV and V below. Before delving into those recommendations, however, we first provide some background information in Sections I and II that should help the Committee better understand our industry and why it is so important to ensure the U.S. government's trade agenda promotes 21<sup>st</sup> century manufacturing.

## **I. Market Access is Critical for our Industry**

### **1. Intel Depends on Overseas Markets to Create and Sustain Jobs at Home**

In 1968, Robert Noyce and Gordon Moore, two scientists who helped build Fairchild Semiconductor, decided to leave that company and form their own business to manufacture semiconductor memory products. Soon after, a third visionary named Andy Grove, a Hungarian immigrant, joined the team. The new company, Intel Corporation, began with 12 employees, limited cash, and \$2.5 million in venture capital.

Today, Intel is the world's largest semiconductor manufacturer by revenue, and powering everything from phones and tablets to supercomputers and servers. We have over 100,000 employees worldwide, with more than half of them based in the U.S. Our revenue last year was about \$53 billion, generated from sales to customers in more than 120 countries.

Our company is a prime example of why the U.S. government should increase U.S. exports by opening up new markets and removing or reducing existing trade barriers overseas. More than three quarters of our revenue comes from sales outside the U.S., while roughly three quarters of our advanced microprocessor manufacturing and R&D is done here across 23 states with major operations in Arizona, California, New Mexico and Oregon. The revenue we generate outside the U.S. helps create and sustain our investments and high paying jobs here at home.

Semiconductor manufacturing is extremely expensive, requiring significant capital investment, R&D, exotic materials science, extremely sophisticated tools, complex construction technology for mega factories, and a vast variety of services to keep those factories running smoothly. Our global R&D investment in 2013 alone was \$10.6 billion and our capital investments that same year were \$10.7 billion. In 2012, Intel was the No.1 investor in R&D among U.S. publicly traded companies and the 5th largest capital investor in the U.S.

A leading edge factory now costs about \$5 billion when fully equipped and costs much more to run the factory over its operating life. With a new technology generation developed every two years, many new very expensive tools are purchased to implement the technology and make ever smaller transistors. This dynamic technology treadmill means that our suppliers are critical to Intel's success.

In other words, access to foreign markets does not impact just Intel and its employees. We have over 16,000 suppliers worldwide. More than 7,300 of our suppliers are U.S. based, located in 46 states, with over 3,000 of those suppliers being classified as small businesses. Intel spent almost \$3 billion in 2013 on goods and services purchased just from U.S. small businesses in industry sectors that vary from the supply of chemical gases to the supply of construction services. Those purchases are fueled by overseas demand for our products. Overseas demand, in turn, allows us to "export" our high labor and environmental standards as we share them with our foreign suppliers and implement them in our operations in other countries.

We are proud to be an economic engine in the communities where we do our cutting-edge manufacturing. In addition, to the direct economic impacts of our manufacturing and R&D investments, Intel also has a substantial multiplier effect on job growth and U.S. GDP. For every Intel job in the U.S., an additional 13 American jobs are supported, resulting in a total of 774,600 jobs. Intel's direct impact on U.S. GDP in 2012 was \$26 billion. When the multiplier effect through Intel's supply chain and distribution channels is taken into account, the impact on U.S. GDP in 2012 alone was more than \$96 billion.<sup>1</sup>

We have spent more than \$68 billion on U.S. operations, manufacturing and R&D, from 2002 to 2011. Most of the product manufactured from our U.S. investments will be sold to the 95% of consumers that live overseas. Access to global markets is essential to Intel's continued growth and our ability to create and maintain jobs in the U.S.

## 2. The Entire Semiconductor Industry's Future is Tied to Overseas Sales

According to the Semiconductor Industry Association (SIA), the U.S. semiconductor industry directly employs about 250,000 employees, supports approximately 1 million indirect jobs in the U.S. and makes almost half of the world's computer chips. This market for chips was worth about \$306 billion in 2013 and is growing every year.<sup>2</sup> In fact, between 1987 and 2011 (the year with most recent data), the semiconductor industry grew 265% and contributed the most to U.S. GDP among all U.S. major manufacturing industries.<sup>3</sup>

Free trade is of particular importance to the growth of the entire semiconductor industry. Over 80% of U.S. semiconductors go to customers outside the U.S. market and are sold in nearly every country in the world. According to the International Trade Commission

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<sup>1</sup> "Intel's Economic Impacts on the U.S. Economy, 2008-2012," PWC (December 17, 2013); available at: <http://www.intel.com/content/www/us/en/company-overview/us-economic-impact-study.html>.

<sup>2</sup> World Semiconductor Trade Statistics (2013).

<sup>3</sup> Contribution to GDP means industry's total output less intermediary products and services. Sources cited: Bureau of Economic Analysis: Benchmark Input-Output Tables 1987-2007 and U.S. Bureau of Census: Annual Survey of Manufactures 2011 (refreshed and converted to 2009 dollars with BEA's real and current GDP tables).

(ITC), the semiconductor industry is among America's largest exporters; in 2013, semiconductors were America's number one electronic product exports and they were a top three manufactured export.<sup>4</sup> Yet, as discussed below, the information technology industry is facing an increasing number of market access issues that need to be effectively and promptly addressed.

Exporting semiconductors creates real benefits for many American workers. For example, the overseas sales allow leading-edge U.S. based chip makers to employ highly skilled and talented U.S. workers whose average income is almost \$120,000 per year.<sup>5</sup> In 2013 alone, domestic semiconductor makers invested about \$34 billion in research and development and invested over \$21 billion in capital equipment. These rates of investment in R&D and capital equipment are among the highest of any U.S. industry, when measured as a share of total sales.<sup>6</sup> Such high investment and R&D rates spur new products and create new jobs both among our U.S. suppliers and at the semiconductor companies, which are maintained by overseas sales.

## **II. Ensure U.S. Trade Policy Protects and Promotes Advanced Manufacturing**

Last year, manufacturing contributed \$2.08 trillion or 12.5 percent of GDP to the U.S. economy. For every \$1.00 spent in manufacturing, another \$1.32 is added to the U.S. economy--the highest multiplier effect of any economic sector.<sup>7</sup> The average American worker in manufacturing earns about \$77,500 per year or \$15,000 more annually than the average worker in all U.S. industries.<sup>8</sup> And the average wage in *advanced* manufacturing is much higher than \$77,500; for example, as noted earlier, in the semiconductor industry that wage is \$120,000. Manufacturers in the U.S. perform two-thirds of all private sector R&D, driving more innovation than any other sector.<sup>9</sup>

As the National Association of Manufacturers makes clear in its advocacy efforts, access to foreign markets is key for manufacturers big and small in just about every industry sector. More than 97 percent of U.S. companies that export are small and medium-sized businesses with less than 500 employees.<sup>10</sup> U.S. employment in trade-related jobs grew six and a half times faster than total employment between 2004 and 2011.<sup>11</sup> And jobs linked to exports pay, on average, 18 percent more than other jobs.<sup>12</sup>

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<sup>4</sup> U.S. International Trade Commission, Dataweb.

<sup>5</sup> U.S. Bureau of Labor Statistics (BLS). *See also*:

[http://www.semiconductors.org/clientuploads/Jobs%20Rollout/Jobs%20Issue%20Paper\\_April\\_2013.pdf](http://www.semiconductors.org/clientuploads/Jobs%20Rollout/Jobs%20Issue%20Paper_April_2013.pdf).

<sup>6</sup> IC Insights, Inc. – The McClean Report 2014 and WSTS.

<sup>7</sup> Bureau of Economic Analysis, Industry Economic Accounts (2012).

<sup>8</sup> *Id.*

<sup>9</sup> National Science Foundation (2008). For more statistics about manufacturing in the U.S., please visit the National Association of Manufacturers web site at <http://www.nam.org/Statistics-And-Data/Facts-About-Manufacturing/Landing.aspx>.

<sup>10</sup> U.S. Department of Commerce, U.S. Exporters in 2011: A Statistical Overview; available at [http://www.trade.gov/mas/ian/smeoutlook/tg\\_ian\\_001925.asp](http://www.trade.gov/mas/ian/smeoutlook/tg_ian_001925.asp).

<sup>11</sup> Baughman and Francois, Trade and American Jobs, The Impact of Trade on U.S. and State Level Employment: An Update (2010); available at [http://businessroundtable.org/uploads/studies-reports/downloads/Trade\\_and\\_American\\_Jobs.pdf](http://businessroundtable.org/uploads/studies-reports/downloads/Trade_and_American_Jobs.pdf);

Business Roundtable, How the U.S. Economy Benefits from International Trade and Investment; available at

[http://businessroundtable.org/sites/default/files/legacy/uploads/general/BRT\\_State\\_Studies\\_-\\_US\\_Total.pdf](http://businessroundtable.org/sites/default/files/legacy/uploads/general/BRT_State_Studies_-_US_Total.pdf).

<sup>12</sup> Riker, Do Jobs in Exports Still Pay More? And Why?, U.S. Department of Commerce

With 95% of the world's consumers living outside of the U.S. and about 80% of global purchasing power outside the U.S., any increase in domestic manufacturing must be accompanied by additional opportunities to sell overseas. In the aggregate, U.S. manufacturing industries can do much better in selling overseas into an \$11 trillion global market for manufactured goods.<sup>13</sup> The World Economic Forum Global Competitiveness Report for 2012-2013 listed the United States near the bottom, or 138th out of 144 economies, for exports of goods as a percentage of gross domestic product. And, even though U.S. exports in manufactured goods have grown steadily in recent years, we have lost market share to even more rapidly growing exports of goods from key emerging markets.<sup>14</sup>

Opportunities to sell manufactured goods overseas are created in large part by the negotiation and enforcement of new free trade agreements (FTAs), bilateral investment treaties (BITs), and other initiatives that establish the rules to force open additional markets and promote and protect U.S. business interests. The Committee can help ensure that trade rules take into account 21<sup>st</sup> century manufacturing. Every major government wants more domestic manufacturing to create additional jobs and boost their economy--especially advanced manufacturing with its high paying jobs. These governments are under pressure to take shortcuts by using trade distortive measures to build up local manufacturing.

In brief, there are still many old barriers that must be taken down and emerging barriers that need to be removed before they are implemented. For example, a study conducted last year that reviewed more than 100 policies imposing local content requirements (LCRs) in numerous countries and industries found that LCRs reduce global trade activities by as much as \$93 billion annually.<sup>15</sup> LCRs are becoming especially pernicious and pervasive in the high tech sector because it is considered a strategic industry and thus targeted for local development by many foreign governments. LCRs in our sector also involved forced technology transfer as a condition for investment or to gain market access. As noted recently by USTR, these measures can take the form of standards and regulatory approvals that are discriminatory, incentives based on the origin of IP, and governments allowing national firms to infringe IP owned by foreign firms.<sup>16</sup>

There is no panacea for leveling the playing field for U.S. manufacturers. As noted below, the U.S. government must use a variety of mechanisms to further increase our exports, improve our economy and thus create more U.S. jobs. Existing FTAs need to be expanded where possible so they cover more markets and additional goods and services. The U.S. government also needs to enter into additional FTAs on an accelerated basis without sacrificing their quality. Also, industries with trade supportive governments must work ever more closely together to shun and isolate protectionism, and show that open markets work best in the global economy. And, at some point, Congress may want to address how to make Trade Adjustment Assistance more effective for those workers who are displaced by trade flows.

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Manufacturing and Services Brief (July 2010), accessed at [http://trade.gov/mas/ian/build/groups/public/@tg\\_ian/documents/webcontent/tg\\_ian\\_003208.pdf](http://trade.gov/mas/ian/build/groups/public/@tg_ian/documents/webcontent/tg_ian_003208.pdf).

<sup>13</sup> Source: National Association of Manufacturers.

<sup>14</sup> "In terms of global market share of manufactured exports, the U.S. share declined from 18 percent in 2000 to 9 percent in 2012." Manufacturers Alliance for Productivity and Innovation (citing World Bank and Eurostat); available at through 2012): [http://www.manufacturingfacts.org/single-project\\_32.html](http://www.manufacturingfacts.org/single-project_32.html).

<sup>15</sup> Gary Clyde Hufbauer and Jeffrey J. Schott, *Local Content Requirements: A Global Problem*, Peterson Institute for International Economics (September 2013).

<sup>16</sup> USTR Special 301 Report (2014), pp. 17-18.

### **III. Increase U.S. Exports by Expanding the Scope of Existing Agreements**

Too many key markets are still subject to too few existing trade rules. We discuss several examples in this section involving multilateral agreements.

#### **1. Continue Pushing to Expand the Product Coverage and Membership of the ITA**

Intel strongly supports the Obama Administration's extensive efforts over the last several years to expand the product coverage of the Information Technology Agreement (ITA). We also appreciate the Administration's efforts to expand ITA's original membership by making ITA accession a requirement for membership in the Trans-Pacific Partnership (TPP) Agreement. We hope both these negotiations can be concluded quickly.

The intent of the WTO Information Technology Agreement (ITA), negotiated some 18 years ago with strong bipartisan support,<sup>17</sup> was to promote the development of the emerging global digital economy at the lowest possible cost.<sup>18</sup> By eliminating customs tariffs on a range of information communication technology (ICT) products in many countries, the ITA has dramatically increased U.S. exports. In fact, as noted earlier, semiconductors have been one of the largest U.S. exports over the last five years.

From 1996, when the ITA was signed, to 2008, total trade in ITA listed goods has increased more than 10 percent annually, from \$1.2 trillion to \$4.0 trillion. The dissemination of ICT without customs tariffs in many parts of the world has enabled more ICT use that, in turn, has had a significant positive impact on the global economy by increasing productivity; creating high paying jobs and more efficient markets; raising the quality of innovation, goods, services and innovation; improving health care and education; and otherwise enhancing the quality of life.

But Mexico, Brazil and several other notable countries are not ITA signatories. And, more importantly, many of the digital products developed in the last eighteen years -- such as multi-component semiconductors, video game consoles, e-readers, and DRAMs, video game consoles, and flat panel displays -- are not covered by the ITA.

ITA expansion of its product coverage would increase U.S. exports of ICT products by \$2.8 billion, boost revenues of U.S. ICT firms by \$10 billion, and support creation of approximately 60,000 new U.S. jobs.<sup>19</sup> Preliminary industry studies indicate that an expanded ITA could remove tariffs on an additional \$1 trillion in global ICT trade, with more than \$122 billion in U.S. ICT trade affected.

Semiconductors constitute the largest product category covered by the ITA in terms of value. From 2005 to 2010, semiconductor products experienced the highest export growth rate

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<sup>17</sup> The agreement is formally known as the "Ministerial Declaration on Trade in Information Technology Products," and was signed in Singapore on December 13, 1996 (WTO ref. WT/MIN(96)/16).

<sup>18</sup> As former USTR Charlene Barshefsky put it, "The Information Technology Agreement . . . means that the creation of the information superhighway will be encouraged and promoted, not taxed." Statement at the conclusion of the Singapore Ministerial of the WTO (December 1996).

<sup>19</sup> This estimate assumes an average tariff of non-ITA covered ICT products of 5.3% and an average trade-weighted import demand elasticity of ITA members of 1.30. (ITIF Report, March 2012).

of any ITA product category, growing at 7.8 percent annually. By 2010, semiconductors accounted for 33 percent of global exports of ICT products<sup>20</sup> and have since remained one of our country's top exports.

As an example of the value of expanding the ITA, consider multi chip components (MCOs). This developing semiconductor product, which contains multiple types of individual components as opposed to a single integrated circuit, accounts for roughly 1.5 to 3 percent of the global semiconductor market today. However, we anticipate this percentage to significantly increase going forward. If ITA expansion includes MCOs, it has been estimated that its manufacturers would enjoy nearly \$200 million in tariff savings per year.<sup>21</sup>

## 2. Expand Membership of the GPA

Government procurement comprises a significant share of the global economy -- from 10-to-20 percent of the GDP for many countries. And, while estimates vary widely, many believe that global government procurement is a multi-trillion dollar market with the contestable share (i.e., the amount subject to international competition) being around 30% of that value.<sup>22</sup>

Yet, none of the BRIC countries are signatories to the WTO Government Procurement Agreement (GPA) that prevents discrimination against foreign suppliers. This has enabled the BRICs to promulgate measures designed to favor local suppliers, especially those in the electronics sector, as a way to unfairly build up and favor local companies and ICT related industries. Unfortunately, such policies not only will hurt U.S. companies, but also raise consumer prices and limit product choice within the countries promulgating them.

Brazil's government purchases domestically produced goods and services, even when these cost up to 25% more than the cheapest imported products and services, if they are developed by Brazilian companies that (i) manufacture the goods at issue in Brazil or provide the services locally; and (ii) invest a certain percentage of revenue in R&D and the development of technology in the country. Implementing regulations, which typically require an increasing amount of local content each year to qualify for the preferences, are focused on defense, healthcare and ICT.<sup>23</sup>

The Ministry of Communications and Information Technology (MCIT) of India, for its part, recommended in 2011 that government procurement preferences be given to all domestically produced electronic products and products made with Indian IP.<sup>24</sup> Moreover, MCIT attempted to extend domestic government procurement preferences in the telecom sector to cover private licensees, even though that would violate the national treatment clause of the

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<sup>20</sup> "ITA Report," The Information Technology and Innovation Foundation (April 2014) ["ITIF Report"].

<sup>21</sup> ITIF Report, April 2014.

<sup>22</sup> The Size of Government Procurement Markets, OECD (2002) (using 1998 data), accessed at <http://www.oecd.org/dataoecd/34/14/1845927.pdf>; International Trade Statistics, World Trade Organization (2009) (using 2008 goods data), accessed at [http://www.wto.org/english/res\\_e/statis\\_e/its2009\\_e/its2009\\_e.pdf](http://www.wto.org/english/res_e/statis_e/its2009_e/its2009_e.pdf); Options for Global Trade Reform: A View from the Asia-Pacific (Trade and Development), edited by Will Martin and Mari Pangestu (2003) at 249.

<sup>23</sup> Government Purchase Law (No. 8.666, promulgated in 1993).

<sup>24</sup> Progress Report on the 100-Days Plan of Action of Ministry of Communications & Information Technology Announced on January 01 This Year (April 11, 2011), DoT Action Point 8(c) and DIT Action Point 8(c).

General Agreement on Tariffs and Trade.<sup>25</sup> Both the National Telecom Policy and Manufacturing Policy advance procurement preferences for domestic product in the telecom and other strategic technological sectors.<sup>26</sup> Several years ago, consistent with MCIT's recommendation, the Cabinet of India approved a broader proposal to provide government procurement preferences, on a graded value-add basis, to all domestically manufactured electronic products (whether for the telecom sector or not).<sup>27</sup> The Government of India is now implementing its procurement guideline.

In 2011, former PRC President Hu Jintao voluntarily committed his administration to breaking the links between China's indigenous innovation and government procurement policies. Subsequent commitments followed, and as a result, various central and provincial authorities took steps to toward implementing these commitments. Not all relevant authorities have taken such steps, however. Moreover, in 2012, according to a survey of the US/China Business Council (USCBC) member companies, the paper changes that had been made had not yet effectively translated into tangible sales opportunities.<sup>28</sup> GPA accession would make such commitments binding and enforceable.

Russia has a narrower public procurement preference program than the other BRIC countries. In 2010, the Ministry of Industry and Trade issued a decree that enables domestic manufacturers to receive preferences in state procurements tenders of telecommunication equipment for LTE networks where not less than 50% of the stock of the company belongs to the Russian state or its citizens, and the entire product cycle (e.g., R&D, manufacturing and assembly) of components (e.g., printed circuit boards) needed for the telecom equipment that the domestic company engages occurs in Russia. In addition, the qualifying manufacturer must own the rights to software used in the equipment and the required local content level for components in the telecom equipment rises each year.<sup>29</sup>

These types of market preferences can significantly distort trade because government procurement comprises a major share of the global economy. We need to incentivize other large governments to join the GPA with contract thresholds and coverage of regulatory authorities which are similar in scope to that provided by the U.S. More efficient, accountable, competitive and transparent procurement structures are increasingly critical for all governments, as they seek to provide their citizens with the highest quality goods and services within significant fiscal constraints.

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<sup>25</sup> Pressure from the U.S. and Japanese governments influenced the Government of India to cut back its measure to government procurement.

<sup>26</sup> National Telecom Policy (2012), Section III(33) and IV(2.16); Manufacturing Policy (2011), Sections 1.21(i), 1.22 and 8.2.

<sup>27</sup> See <http://pib.nic.in/newsite/PrintRelease.aspx?relid=80074>.

<sup>28</sup> Status Report: China's Innovation and Government Procurement Policies," The US-China Business Council (May 2014); available at: <http://www.uschina.org/reports/indigenous-innovation-and-procurement-progress-report-2014>.

<sup>29</sup> "Order on approval of the parameter values, methods of the parameter value determination and the order of assignment of the status of the *Russian domestic telecommunications equipment* to telecommunications equipment manufactured within the territory of the Russian Federation," Ministry of Industry and Trade of the Russian Federation (July, 26<sup>th</sup>, 2010).



#### **IV. Increase the Number of Robust FTAs on an Accelerated Basis**

When trade rules are used to open markets, U.S. manufacturers can compete on a global playing field, boost sales and grow their share of foreign markets. America's 20 existing free trade agreement (FTA) partners account for less than 10 percent of the global economy but purchase nearly 50% percent of all U.S. manufactured goods exports. The United States enjoys a nearly \$60 billion manufacturing trade surplus with its trade agreement partners, compared with a \$508 billion deficit with other countries.

The United States, however, has not kept pace with other countries in opening new markets abroad, especially in the fast-growing economies of Asia and Latin America that are now major engines of global growth. According to WTO data, about 585 regional trade agreements (RTAs) have been negotiated worldwide and, of those, 385 RTAs have entered into force.<sup>30</sup> The United States is party to only 14 such agreements.<sup>31</sup> In contrast, the European Union has 37 RTAs, and is in negotiations with India, Canada and Japan.<sup>32</sup> Singapore has 21 RTAs in force and agreements pending with Canada, the EU and Ukraine.<sup>33</sup> And India has 16 RTAs in force and another four in negotiation.<sup>34</sup> Similarly, when it comes to bilateral investment treaties, the U.S. lags behind in a world with nearly 3,000 BITs. In particular, the 48 U.S. BITs in force are far less than half of Germany's 147 BITs and considerably less than China's 90 BITs or even Korea's 68 BITs.<sup>35</sup>

Of course, the U.S. government must be selective in allocating its limited resources and determine which governments it can negotiate with to produce the most mutual benefit. We also recognize that USTR is currently negotiating two significant agreements, which hopefully will set a high bar for subsequent FTAs.

##### **1. Ensure a High Quality TPP Agreement that Will Serve as a Template for Other FTAs**

We appreciate USTR's relentless use of resources to negotiate a robust Trans-Pacific Partnership (TPP) Agreement among 11 other countries in the Asia-Pacific region. USTR staff has exercised considerable effort to make the TPP agreement the gold standard for trade rules. Of particular interest to Intel, USTR has worked hard for language in the agreement that increases trade secret protection, enhances e-commerce provisions, prevents unnecessary regulation of commercial encryption, and provides more robust due process protections in competition cases. However, raising the bar significantly may require more time and Intel is

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<sup>30</sup> "Some Figures on Regional Trade Agreements." *WTO*. 01 July 2014.

<http://rtais.wto.org/UI/publicsummarytable.aspx>

<sup>31</sup> "United States of America Country Profile." *WTO*. 01 Jul 2014.

<http://rtais.wto.org/UI/PublicSearchByMemberResult.aspx?MemberCode=840&lang=1&redirect=1>

<sup>32</sup> "European Union Country Profile." *WTO*. 01 Jul 2014.

<http://rtais.wto.org/UI/PublicSearchByMemberResult.aspx?MemberCode=918&lang=1&redirect=1>

<sup>33</sup> "Singapore Country Profile." *WTO*. 01 Jul 2014.

<http://rtais.wto.org/UI/PublicSearchByMemberResult.aspx?MemberCode=702&lang=1&redirect=1>

<sup>34</sup> "India Country Profile." *WTO*. 01 Jul 2014.

<http://rtais.wto.org/UI/PublicSearchByMemberResult.aspx?MemberCode=356&lang=1&redirect=1>

<sup>35</sup> "Database of Bilateral Investment Treaties." *ICSID*. 2014.

<https://icsid.worldbank.org/ICSID/FrontServlet?requestType=ICSIDPublicationsRH&actionVal=ViewBilateral&reqFrom=Main>

concerned that the quality of the TPP agreement may be partially sacrificed as a result of the agency's strong desire to finalize negotiations this year. New provisions, such as a right to cross-border data flows subject to limited and justified exceptions, are critical to so many industries – including ours, which relies on a global supply chain. Yet such provisions take time to negotiate because, for some governments with less advanced economies the benefits are not intuitive. We would thus recommend that USTR continue to work diligently to maximize the momentum it has developed in the TPP negotiations, but not pursue an arbitrary deadline as the end goal.

## 2. Negotiate a Comprehensive Transatlantic Trade and Investment Partnership (TTIP)

Although the sixth round of negotiations on TTIP just began, so far U.S. and EC negotiators have tabled only preliminary offers (if anything at all) on the various subject matter areas under negotiation. We are nevertheless concerned that undue focus on regulatory and other differences between the U.S. and EC legal systems could negatively impact the broad, strategic scope of the TTIP agreement initially contemplated by the parties. Specifically, President Obama, European Council President Van Rompuy, and European Commission President Barroso jointly emphasized that the agreement will “not only expand trade and investment across the Atlantic, *but also contribute to the development of global rules that can strengthen the multilateral trading system.*”<sup>36</sup>

The greatest value of a transatlantic agreement to Intel will be the precedent it can set across the globe on sensitive policy issues. Other governments are more likely to follow when the EU and the U.S. speak with one voice on emerging trade, investment and innovation impediments, as the transatlantic economy accounts for nearly 50 percent of world GDP and 30 percent of world trade. The Final Report of the U.S.-EU High Level Working Group (HLWG) on Jobs and Growth raises several global issues for TTIP that are of interest to Intel.

First, the HLWG recommends that the U.S. and the EU reach bilateral agreement on globally relevant rules, principles or modes of cooperation on “localization barriers to trade.” We strongly agree with this recommendation. Some governments are requiring businesses to locate R&D, IP and/or manufacturing within their borders as a condition of market access. If not contained, these emerging localization requirements will interfere with global supply chains that are essential to the ICT industry. They also will significantly impede the competitiveness of many EU and U.S. companies heavily dependent on emerging markets.

Second, the HLWG Report also recommends that the transatlantic negotiations address, among other items, “significant IPR issues of interest to *either* side” to “contribute to the progressive strengthening of the multilateral trading system.” Again, we agree. The U.S. and EC negotiators already have discussed using TTIP to enhance trade secret protection by reflecting in the agreement the improvements they are making in their respective laws that protect this type of IP. In the information economy, the constant transfer of ever growing amounts of data on multiple digital devices enables trade secret theft to occur anywhere at any time. So, such theft needs to be appropriately deterred. The parties also should set global

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<sup>36</sup> See Office of the U.S. Trade Representative, [Final Report of the U.S.-EU High Level Group on Jobs and Growth](#), February 11, 2013.

principles on preventing forced technology transfer through broad compulsory licensing, disclosure of sensitive information as a condition of market access, or otherwise.

Third, the HLWG Report suggests that the parties enhance their “cooperation on conformity assessment and standardization issues globally.” These challenges also should include curtailing the proliferation of unnecessary, prescriptive technology regulations that may be based on international standards. Such technology mandates are on the rise as more governments try to build up their local ICT infrastructure and industries, or overreact to legitimate privacy and security concerns.

Redundant and/or burdensome certification requirements also are troublesome, as they can delay or even block the entry of imports. Moreover, an increasing number of certification programs require unnecessary confidential business information that the receiving authority often is ill equipped to safeguard. Intel has provided other examples that impede innovation and trade in formal consultations with USTR and during stakeholder sessions at negotiation rounds.

If and when Congress considers Trade Promotion Authority, it should direct trade negotiators to fully address 21<sup>st</sup> century manufacturing challenges to help Americans prosper and create jobs at home.

## **V. Employ a Combination of Mechanisms to Address Emerging NTBs**

The world of trade is more complex than ever before. For example, we note that traditional non-tariff barriers such as local content requirements are (i) being expanded to require local data storage, design activities and intellectual property; and (ii) often are now combined with other barriers such as discriminatory incentives and domestic security initiatives that are counterproductive to both the local economy implementing them and global economic welfare. An assortment of trade tools is thus necessary to effectively tackle these complex behind-the-border measures.

At least three dozen countries have implemented national innovation strategies to increase their competitiveness and generate more economic growth.<sup>37</sup> The nature of those strategies differs widely among governments, however, and the difference between innovation and industrial policy is often murky at best.<sup>38</sup> U.S. companies increasingly face a host of measures intended to spur local R&D, IPR and manufacturing that are specifically exempt from WTO requirements, do not always comply with those requirements, and/or fall within the cracks of international restrictions on trade distortive measures.

One prime example of such measures is the proliferation of government procurement preferences in the BRIC countries that we mentioned in Section III.2. But there are others.

For example, a task force operating under the Indian Ministry of Corporate Affairs suggested several years ago that, as a bedrock principle of competition policy, intellectual

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<sup>37</sup> Stephen Ezell, “America and the World: We’re #40,” *Democracy: A Journal of Ideas*, Issue # 14, Fall 2009, <http://www.democracyjournal.org/article.php?ID=6703>.

<sup>38</sup> See generally “The Good, The Bad and The Ugly (and The Self-Destructive) of Innovation Policy: A Policymakers Guide to Creating Effective Innovation Policy,” The Information Technology and Innovation Foundation (October 2010).

property owned by a dominant company be made accessible to any third party that needs it to compete. On a related note, in 2010 a division in India's Ministry of Commerce argued that "compulsory licensing has a strong and persistent positive effect on domestic invention."

A number of the indigenous innovation policies that Indian regulatory authorities have been promulgating since early 2010 are very similar to those which the Chinese government has promulgated since 2005 and that the U.S. government is familiar with. For instance,

- As with the network regulations that the Certification and Accreditation Administration of China (CNCA) issued several years ago, in 2010 India's Department of Telecommunications required the disclosure of source code as part of its certification process.<sup>39</sup> The U.S. and other governments were able to persuade India, but not China, to remove that troublesome disclosure requirement.
- The Chinese government has supported an array of "voluntary" national standards that favor domestic technologies even when relevant international standards exist. Likewise, the Government of India is now supporting the development of Indian standards in the telecom sector.

The trend to pursue trade distorting innovation and manufacturing policies is not limited just to China and India, but is spreading to other regions.

Brazil, for example, is experimenting more deeply with industrial policy in the technology sector by providing incentives contingent on local production and investment.<sup>40</sup> The general legal framework for encouraging local R&D and manufacturing in Brazil has been in place for several decades, but recent implementing regulations on products such as tablets are micromanaging local content additions. Moreover, as in India, Brazilian policy linking incentives to local content is spreading to other regulatory areas such as spectrum allocation. Specifically, auction proposals by Brazil's agency over national telecommunications require a winning bidder to purchase an annually increasing percentage of locally manufactured and locally designed goods for the telecommunications and data networks that would use the spectrum being auctioned.<sup>41</sup>

Argentina has been targeting all imports by imposing ever more restrictive import licensing restrictions under which a license is not granted within the WTO required 60 day period unless affected companies meet unrelated government demands, such as agreeing to manufacture locally. Many U.S. companies still have products awaiting entry and are not making anticipated sales in the country.<sup>42</sup> Fortunately, a WTO panel recently ruled against at least some of Argentina's discriminatory measures and we hope this ruling will serve as a deterrent to other governments inclined to implement similar measures.

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<sup>39</sup> See Template of the Agreement Between Telecom Service Provider and the Vendor of Equipment, Products and Services (28 July 2010).

<sup>40</sup> See generally Brazil's Information Technology Law, No. 8.248 (January 23, 1991)

<sup>41</sup> See generally ANATEL Proposal, Public Consultation No. 4 on the proposed tender rules for the 450 MHz and 2.5 GHz spectrum bands (February 2012).

<sup>42</sup> Multi-Trade Association Letter to Ambassador Ron Kirk and Deputy Assistant Michael Froman (February 10, 2012).

There is no single solution to solve these intertwined, complex and evolving trade distortive measures. Rather, the U.S. government should continue to employ a combination of mechanisms to convince governments to pursue a more open and proven approach to increase their competitiveness. To some extent, as noted below, the U.S. government already has been doing that with trade distortive regulations and policies that China has developed and enacted. Yet those existing mechanisms can be applied more robustly and to other emerging economies like India and Brazil, which also are working to develop policies that enhance their economies.

The following are some of the mechanisms that have shown to help address more fully the complex and evolving trade distortive measures.

#### 1. Address Trade Issues Preemptively in Bilateral and Multilateral Fora

The Administration has had some success in working with China on a number of trade related issues in the U.S./China Joint Commission on Commerce and Trade (JCCT) and the more strategic or high level U.S./China Strategic and Economic Dialogue (S&ED). Through the JCCT the Chinese government has made many commitments, including the following:

- Stay out of royalty negotiations between IPR holders and let market forces govern,
- Improve IPR enforcement,
- Remain technology neutral regarding the standard or technologies used in 3G or successor networks,
- Delink government procurement from the origin of IPR,
- Cut back on information security certification rules that would bar a number of U.S. network products from the Chinese market so that they apply only to government procurement,
- Submit an improved GPA offer,
- Allow foreign stakeholders to participate in national standard setting activities as well as technical regulatory and conformity assessment developments,
- Provide a detailed account of its subsidies to the WTO by the end of 2005,
- Suspend indefinitely its proposed implementation of WAPI as a mandatory wireless encryption standard, and
- Eliminate its 70 percent local content requirement for wind powered equipment.<sup>43</sup>

A number of these JCCT commitments have been implemented. Others have not, or have been only partially implemented and often in a delayed manner. Still, as non-binding fora, the JCCT and S&ED have been very helpful because they allow and even encourage dialogue on general economic policies and specific trade issues (whether covered by trade rules or not) before they create significant damage to either economy. The Administration, however, may want to more carefully track the completion of the Chinese commitments made to date. In addition, the Administration may also want to apply a similar model to its U.S./India bilateral fora and the U.S./EU Transatlantic Economic Council, as those mechanisms do not seem to get the same attention or generate similar commitments from Indian or EU officials.

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<sup>43</sup> See "China's JCCT Commitments, 2004-10," The US-China Business Council (As of December 16, 2010).

## 2. Establish Additional Best Practices and Principles Through Multilateral Fora

The development of international best practices, principles and standards can help fill in the “regulatory gaps” not suited for binding international agreements. These alternatives to national regulation have the unique benefits of being more flexible (e.g., not locking in technology), are easier to update, and ensure greater interoperability. Because of its non-binding nature, the Asia Pacific Economic Cooperation (APEC) has experimented extensively with principles and practices as guidelines to further enable the digital economy in its 21 member economies while balancing IPR, privacy, security, and other legitimate concerns.

For instance, APEC’s Digital Prosperity Checklist (“DPCL”) is “designed to assist APEC economies in promoting the use and development of ICTs as a means to enhance their ability to participate in the global digital economy.” To that end, the DPCL “will provide a unique, yet critical tool for individual APEC economies to evaluate whether their domestic legal, regulatory, and trade policy frameworks are designed to positively impact the capacity of ICTs to generate value for their economies.”<sup>44</sup> The DPCL references a number of ICT best practices and standards in connection with investment, infrastructure, innovation, intellectual capital, information flows, and integration of industries with the global economy. The DPCL best practices and standards developed with industry assistance serve as guides for national legislation where appropriate. As such, they should be reinforced by repeatedly referencing them in official documents and highlighting APEC economies that follow them.

There are various ways that the U.S. government could provide even more support than it already does for standards and best practices that address thorny trade issues not capable of adequately being solved through FTAs. Several examples follow.

### *A. Time Tested Innovation Principles*

The drive by various governments to increase indigenous innovation makes sense as they seek to rise up the value chain and create more jobs within their countries. The challenge lies in crafting and implementing such policies so that they are both effective domestically and not trade distortive internationally.

The Administration and China agreed to develop some very high level time tested innovation principles to guide each government in developing policies that are not trade-distortive. The U.S. high tech industry then worked with USTR to develop some more robust innovation principles, which APEC adopted in November of 2011. Subsequently, the Administration wisely breathed more life into the APEC principles in the U.S./China JCCT held several weeks later:

“Building on the innovation principles agreed to in the 2011 APEC Leaders’ Declaration, China and the United States agree to use the JCCT Intellectual Property Rights Working Group to study investment, tax and other regulatory measures outside of government procurement, with the first phase of study in 2012 covering investment and tax, and the second phase in 2013 covering key measures in other areas, to determine whether the

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<sup>44</sup> APEC Digital Prosperity Checklist (November 10, 2008).

receipt of government benefits is linked to where intellectual property is owned or developed, or to the licensing of technology by foreign investors to host country entities. The two sides will actively discuss removal of these barriers that distort trade and investment.”<sup>45</sup>

The U.S. government should track adherence to the JCCT commitment and persuade APEC to monitor the implementation of the innovation principles among its 21 members. Otherwise, their benefit will be lost.

### *B. Global Cyber Security Standards and Best Practices*

Industry and government have an equal incentive to ensure and increase information security, including cybersecurity.<sup>46</sup> Industry at large seeks a reliable and trustworthy cyber infrastructure that will encourage commercial activities and the continued growth of the global digital infrastructure. Governments want to (1) further extend cyberspace’s benefits to their economies and citizens, and (2) prevent criminals from using cyberspace to undertake fraud, espionage, crime, and terrorist activities - activities that traditionally occurred offline.

Fortunately, governments, infrastructure owners, operators and users, and the information technology industry have a variety of tools to address information security and cybersecurity risks and challenges. These tools include technology standards, training, guidelines and best practices on information sharing, risk management, etc. As governments seeks to address risks in cyberspace, it is important that any measures they adopt properly reflect the borderless, global, interdependent cyber infrastructure. Internationally cohesive cybersecurity measures will promote interoperability, minimize “weak links” that result in vulnerabilities, lower costs for businesses that can deploy security measures globally, and free up vendors’ resources to continue to invest and innovate. As noted in this Administration’s Cyberspace Policy Review, “International norms are critical to establishing a secure and thriving digital infrastructure.”<sup>47</sup>

Joint action from government and industry is necessary to address evolving security challenges in the global environment. They need to work together to develop policies and practices that take into account the dynamic and complex cyber environment, and quickly adapt to emerging technologies, business models, and threats. Divergent cybersecurity requirements adopted by countries without reliance on international policies and practices or technical assistance derived from a robust private/public partnership create uncertainty and inhibit the growth of e-commerce. For instance, the building of a telecommunications infrastructure in India slowed significantly in 2011 because that government, without an official consultation process, attempted to mandate contractual terms between telecommunications equipment vendors and Internet Service Providers for security reasons.

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<sup>45</sup> See <http://www.commerce.gov/news/fact-sheets/2011/11/21/22nd-us-china-joint-commission-commerce-and-trade-fact-sheet>.

<sup>46</sup> The interdependent network of information system infrastructures that includes the Internet, telecommunications networks, computer systems, embedded processors and controllers, and digital information is collectively known as “cyberspace.” Security enables this global digital infrastructure by creating a trusted, robust, and interoperable environment in which economic transactions and activities can occur.

<sup>47</sup> Cyberspace Policy Review: Assuring a Trusted and Resilient Information and Communications Infrastructure (June 26, 2010).

The “Encryption Regulation Best Practices” developed by the World Semiconductor Council (WSC) provide an excellent example of how private/public partnerships can tackle modern day cross-border issues effectively. Encryption is now ubiquitous in widely available ICT, including the semiconductors that Intel manufactures. For those widely available ICT products, the WSC best practices -- developed between 2009 and 2012<sup>48</sup> -- establish a presumption of no regulation except in narrow and justifiable circumstances (e.g., resulting out of international conventions such as export controls to prevent proliferation of munitions and weapons of mass destruction to targeted countries or targeted end users). To the extent that encryption regulation is necessary, the WSC best practices basically state that:

- Such regulation should not directly or indirectly favor specific technologies (including domestic algorithms), limit market access, or lead to forced transfer of intellectual property;
- The regulation should not mandate a specific technology because it will quickly become outdated, leading to less secure products;
- Any regulatory requirements must be applied on a non-discriminatory basis and respect intellectual property rights;
- Global collaboration and open markets for commercial encryption technologies should be strongly encouraged as both inherently promote more secure and innovative ICT products; and
- Any necessary licensing procedures should be transparent, predictable and consistent with international norms and practices.

These Encryption Regulation Best Practices were adopted by the six governments that have trade associations in the WSC. Those governments are China, South Korea, Taiwan, Europe, Japan and the United States, and they committed to promoting the practices to yet other governments. If promoted globally, the WSC best practices could prevent countries like Russia and India from enacting encryption regulation that could significantly impact the importation of U.S. IT products and reduce the security of domestic digital infrastructure by preventing leading edge products from being used.

### *C. Incorporate Best Practices into FTAs*

USTR should consider using FTAs as a legal tool to push for, support, and even reference relevant international standards and best practices. For instance, in the information security space, among other initiatives based on private/public collaboration, FTAs could (i) rely on the common criteria assurance procedure where relevant; and (ii) incorporate emerging APEC work product “to develop options for effective cyber security initiatives against cyber threats,”<sup>49</sup> assuming those initiatives turn out to be feasible and well balanced.

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<sup>48</sup> See Joint Statement of the 17<sup>th</sup> Meeting of the World Semiconductor Council, Lisbon Portugal, Annex 1: WSC Encryption Principles (23 May, 2013).

<sup>49</sup> Draft Okinawa Declaration, “ICT as an Engine for New Socio-economic Growth,” The Eighth APEC Ministerial Meeting on the Telecommunications and Information Industry (TELMIN 8) (30-31 October, 2010, Okinawa, Japan).



Efforts to incorporate best practices into FTAs either as binding or hortatory language are not unprecedented. We understand the TPP agreement includes binding language that is based on the WSC best practices.

#### *D. Find Ways to Establish “Living Agreements”*

We must not only increase the pace of trade negotiations, but also ensure that the agreements being negotiated effectively address as many forms of emerging non-tariff barriers as possible. As Intel testified in a Senate hearing in 2010 on International Trade in the Digital Economy, there are a number of emerging trade barriers specific to IT goods and services that need to be addressed.<sup>50</sup> For example, much progress still needs to be made in liberalizing digital services. We are confident that similar gaps exist in other dynamic industries as product cycles continue to accelerate in time.<sup>51</sup>

USTR has improved and modernized the language FTAs over time. Of relevance to Intel, FTAs now enable e-commerce (as noted earlier); allow trade in both the equipment and devices that make up the IT infrastructure; and also allow trade in the digital goods and services the IT infrastructure enables. Moreover, the latest model language for FTAs contains various provisions requiring the Parties to cooperate on an ongoing basis; for example, to ensure regulatory alignment with international technology standards and prevent deceptive practices in e-commerce to enhance consumer welfare.<sup>52</sup> Such cooperative mechanisms are important to expand an FTA’s capability to evolve as growth of the digital economy creates new challenges.

Another way to lengthen the useful life of an FTA is to include a periodic review mechanism where the negotiating parties commit to upgrade and expand the FTA. There is precedent for this in the FTA between Australia and New Zealand that is called Closer Economic Relations (CER). After initial adoption of the agreement’s predecessor, there were several formal reviews every three or four years that resulted in additional provisions being added. The parties then decided to conduct annual reviews of CER, which is essential given how rapidly economies, business models, and technologies now evolve. A long list of additional agreements resulted from these annual reviews. One of the most important results of CER was the Protocol on the Acceleration of Free Trade in Goods, which resulted in the total elimination of tariffs or quantitative restrictions between the two countries. This agreement was finalized five years ahead of schedule.<sup>53</sup>

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<sup>50</sup> See generally Prepared Statement of Intel Corporation, “International Trade in the Digital Economy,” Subcommittee on International Trade, Customs, and Global Competitiveness, U.S. Senate (November 18, 2010).

<sup>51</sup> See “Forced Localization of Global Companies Business Activities,” Handout given at The 2011 Global Services Summit: Engaging the Dynamic Asian Economies, Washington, DC (July 20, 2011).

<sup>52</sup> See, e.g., KORUS Articles 9.4.1 & 15.5.2, 3.

<sup>53</sup> See generally <http://www.newzealand.embassy.gov.au/wltn/CloseEconRel.html>; [http://en.wikipedia.org/wiki/Closer\\_Economic\\_Relations](http://en.wikipedia.org/wiki/Closer_Economic_Relations).

## **Conclusion**

As Congress continues to explore ways to increase the competitiveness of U.S. industries, Intel recommends that it also work in parallel with the Administration to open up the biggest and fastest-growing emerging markets using a variety of mechanisms tailored to the issues at hand and to the targeted markets. These mechanisms should include mutually beneficial commitments on complex trade distortive issues derived from non-binding regular bilateral dialogues; the increase in and use of modern rules that take into account emerging non-tariff barriers; and the promotion of best practices and principles where FTAs do not reach the issues being addressed.

In sum, we need an increase in proactive standards, practices and binding international rules that are modernized to further reap the benefits of a digital economy. This recommended trade agenda is ambitious, but necessary to ensure America is in a position to effectively compete on a level playing field that benefits the entire global economy.