Washington State Defense Export Market Research: Global Trends and Regulatory Issues

Discussion Draft

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Washington MilitaryAlliance

Prepared by:

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President and CEO
Chris Mefford

Lead Analysts
Spencer Cohen, PhD
Eric Viola
Sam Kaplan, Gittes Global
Nelson Dong, Dorsey & Whitney LLP
Larry Ward, Dorsey & Whitney LLP

Analysts
Michaela Jellicoe
Katy Nally
Sudarshan Sampath
Alexandra Streamer

Community Attributes Inc.
1411 Fourth Avenue, Suite 1401
Seattle, Washington 98101

www.communityattributes.com

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EXECUTIVE SUMMARY

Background and Purpose

Defense is an important driver of economic activity across multiple sectors of the Washington state economy. According to the Washington Military Alliance, between 2012 and 2014 defense contracting (Department of Defense and U.S. Coast Guard) supported an average of $12.9 billion in economic activity across the state and 56,300 jobs. This total is in addition to the $5.8 billion in salary and wage outlays to defense personnel, including active-duty and civilian workers.

The Washington State Department of Commerce (Commerce) has requested a series of reports to assess overseas exporting opportunities for Washington-based defense contractors in the following sectors: 1) maritime; 2) aerospace; 3) information & communication technology; 4) life sciences & global health; and 5) clean technology.

This report is intended to compliment the five sector-specific reports, providing a survey of key global, macroeconomic, and regulatory trends and considerations that will likely shape overseas opportunities for Washington-based defense firms.

Key Findings

Global defense spending

- According to data compiled by the Stockholm International Peace Research Institute, in 2014 global defense spending reach $1.7 trillion.
- The U.S. is the global leader in defense spending, with total expenditures of nearly $600 billion in 2014, equal to 3.5% of GDP. However, spending has declined since reaching a peak of 4.7% of GDP in 2010.
- On average, governments worldwide spend an average of 2.3% of GDP on defense.
- Japan, South Korea, and China spent 1.0%, 2.6%, and 2.1% of GDP on defense, respectively. China was the largest defense spender of the three at $191.0 billion. Japan's 2016 defense budget rose to $41.4 billion.
- The U.S. is already a major exporter of defense articles. In 2014, U.S. defense-related merchandise exports totaled $20.6 billion.

Geopolitical Considerations Shaping Exporting Opportunities

There are numerous geopolitical conditions that both create and constrain opportunities for Washington-based defense contractors. These include the following:

- Recent appreciation of the U.S. dollar, eroding overseas price competitiveness for U.S. companies.
- Decline in crude oil prices has weakened the economies of many global competitors and allies reliant on these revenues, notable Russian, Venezuela, and Middle Eastern oil exporters.
- **Chinese economic slowdown**. While China is not a market for U.S. defense articles, it is an important source of demand for many civilian products with defense applications, such as in clean technology. The Chinese economy is experiencing a gradual decline in the rate of growth. This, plus concerns over extensive debt, may further affect both opportunities in China but also other countries that rely on Chinese demand.
- **Pacific Pivot**. The U.S. has continued to realign defense assets to the Asia Pacific region, acknowledging both the region as the future nexus of growth and potential tensions arising as part of China's rise and greater military and economic clout. This realignment also includes strengthening of U.S. alliances in the region, and potential exporting opportunities for defense contractors to ally governments.
- **Trade**. If ratified by the U.S. Congress, the Trans-Pacific Partnership will encompass a free trade zone covering 12 countries representing 40% of the world economy as measured by GDP. Many of the countries belonging to the TPP are U.S. allies, including Japan, helping to further ease exports of defense articles to these markets.
- **Maritime disputes**. The recent decision by the Permanent Court of Arbitration at the Hague notwithstanding, tensions will remain high between China and Southeast Asian countries over sovereignty over the archipelago in the South China Sea, further spurring demand for patrol vessels and other defense articles manufactured by Washington state contractors. Similarly, Japan and China continue to dispute sovereignty over the Diaoyu Islands in the East China Sea, currently under the administration of Japan.
- **Brexit**. The June referendum by United Kingdom voters to leave the European Union may impact U.S. trade with the UK, though many details regarding the exit remain unclear. Following the vote, the British Pound has depreciated 11% vis-à-vis the U.S. dollar, weakening price competitiveness for U.S. exporters there. The UK is one of Washington's largest export markets, in total and for non-aerospace merchandise.
- **Lifting of sanctions on Iran**. Recent reports and feedback through interviews with current Washington exporters reveal tepid optimism for new market opportunities in Iran.
- **Health of the U.S. market**. The recent strength of the U.S. market compared with other countries has encouraged more

companies to look domestically rather globally, at least in the near term.

Export Challenges

Export challenges include those specific to small companies, access to new markets, and initial forays into exporting. Findings below are based on interviews, reports, and news sources.

Small Company Challenges

- **Expensive overhead**. For many firms, exporting is a very costly endeavor, requiring overseas travel, trade show participation, and hiring local sales staff.
- **Intellectual property infringement**. Many small firms interviewed expressed concerns over their ability to protect their intellectual property rights overseas, and the legal fees required to prosecute cases of infringement.
- **Burdensome regulations**. Some firms interviewed expressed concerns over perceived advantages of larger firms over small with respect to overseas regulatory compliance.

Getting into Exporting and New Markets

- **Varied exporting strategies**. Some firms interviewed indicated their export line of business was proactive and intentional. Others had an export strategy from the start based on the market for their core products or relationships in specific countries. Some firms were motivated to try exporting during the 2008-2009 U.S. recession or after seeing success with global trade shows.
- **Setting up overseas offices**. Some firms are moving from a distributor model to having overseas offices and staff to interact directly with their clients.
- **Unintentional path to exporting**. Many firms reported "falling into" exporting and new markets, often times through direct solicitations from overseas clients through their website, as was the case for one firm exporting to Oman. Reputational leads and industry connections have also helped foster overseas business opportunities.
- **Anchor markets**. Many companies have used large markets as a means of accessing a broader region. One firm interviewed for this study chose Germany and Japan purposefully due to the size of these markets and proximity to other markets in their regions.
- **Client relationships as an entree into exports**. According to at least one firm interviewed in this study, a large share of export sales was due to an existing relationship with Boeing. Another firm

leveraged its subcontractor relationship with a major oil and gas equipment provider to access new overseas markets.

- **Doing it without help**. A large number of interviewees indicated they developed their initial foray into overseas markets on their own without the help of state and federal agencies, consultants, and/or other resources. It was common for firms to try their own strategy because they were not aware of available resources in Washington state or DC. Upon reflection, some firms explained that they might do things differently now, because of the added costs of doing exporting alone. Several said they could have been better informed about exporting.
- **Innovative new applications for foreign markets**. One firm was drawn to exporting because their generic tubing product for kite flying could also be used in other manufacturing processes.
- **Exporting through an acquisition**. According to one firm interviewed as part of this study, their entrance into exporting came through the acquisition of exporting businesses.

Regulatory Considerations

There are three primary types of barriers U.S. exporting firms must comply with. Those are: 1) International Traffic and Arms Regulations, or "ITAR"; 2) Export Administration Regulations (EAR); and 3) financial sanctions.

Understanding the role and definition of deemed exports is a key element of any export compliance program. Deemed exports are a powerful motivator for exporters to integrate export compliance programs into all of their activities.

The section on regulatory considerations in this report provides detailed information on the ITAR, EAR, and regulatory compliance.

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INTRODUCTION

Background and Purpose

Economic development practitioners have become increasingly concerned with how best to support defense contractors to weather future uncertainty in the federal defense budget. Defense contractors are an essential link with the U.S.'s defense supply chain, and the Department of Defense wants to ensure that they will be available for future defense needs. Export markets are an important opportunity for mitigating this uncertainty for defense firms, reducing individual contractor reliance on defense contracts while ensuring they will be available for future defense needs.

Washington is already one of the most trade-reliant states in the U.S. The state has one of the most extensive port systems in North America, and has a long history of linkages with other parts of the world, including Asia and Northern Europe. Work by Community Attributes Inc. (CAI) in 2012 for the Washington Council on International Trade and Trade Development Alliance of Greater Seattle found that 40% of all jobs across the state were tied to trade, the majority through export activities. CAI confirmed and updated this estimate in 2015 for the Brookings Institute and JPMorgan Chase Global Cities initiative.

However, trade comes with risks. In addition to finance risk and uncertainty in overseas markets, local defense firms must also comply with U.S. federal government export controls, including the International Traffic in Arms Regulations (ITAR). Failure to comply with ITAR can result in significant penalties that may deter businesses from pursuing export opportunities. Export Administration Regulations (EAR) apply to commercial products with potential military applications, and rules vary based on the country destination of sales. The U.S. government also administers financial sanctions through the Office of Foreign Assets Control. These sanctions cover specific individuals, organizations, and nations pursuant to the U.S.'s national security goals.

With these considerations in mind and pursuant to the goal of ensuring defense contractor stability, the Washington State Department of Commerce contracted Community Attributes Inc. to develop an analysis of overseas market opportunities for defense contractors in the maritime, aerospace, information and communication technology, life sciences & global health, and clean technology sectors for Washington's defense contractors.

Pursuant to this study, this introductory report **outlines key global trends and regulatory factors that will likely shape exporting opportunities for defense contractors**. This report is intended to complement the five sector-specific reports submitted to the Washington

State Department of Commerce, providing an assessment of key trends and considerations that span across all sectors.

Organization of Report

- **Defense Activities in Washington**. An overview of defense spending and installations across the state.
- **Global Defense Environment**. Trends in global and U.S. defense spending, now and into the near future.
- **Geopolitical Considerations**. Key issues around the world shaping demand for products and services supplied by Washington-based contractors. Examples include maritime disputes, combatting the drug trade, environmental preservation, opening of previously closed markets, and global economic considerations.
- **Exporting Challenges**. Small company challenges and difficulties accessing new markets.
- **Regulatory Considerations**. U.S. federal export control regulations, prepared by Dorsey & Whitney LLP.

DEFENSE ACTIVITIES IN WASHINGTON

Washington State has long been an important strategic location for national defense. The Puget Sound's deep, protected waters and access to the Pacific made it a natural choice for shipping ammunition to the Pacific during World War II. Since then, the state's naval presence has expanded to include the Puget Sound Naval Shipyard, Naval Base Kitsap, Naval undersea Warfare Center-Keyport Division, and Naval Air Station Whidbey Island. Puget Sound Naval Shipyard traces its history back to 1891, when it was established as the nation's deep water naval harbor. Through World War I the shipyard produced submarines, minesweepers, tugboats, and submarine hunters before switching primarily to repair and maintenance for the U.S. fleet in World War II. In the 1960s, the site began maintenance on nuclear powered submarines. (Commander, Navy Installations Command, 2016)

Today, operations in Keyport, Bremerton, and Bangor cover naval maintenance and repair on nearly every class of U.S. Navy vessel. Defense contractors work in the Navy's shipyards, supporting all aspects of naval maintenance and repair (Commander, Navy Installations Command, 2016).

The state's long, varied coastline presents a great need for Coast Guard activities. The Coast Guard's presence in Washington is significant, and it is tasked with search and rescue, coastal patrol, fishery regulatory enforcement, and national defense support. Coast Guard Base Seattle is the seat of Coast Guard District 13 command, which covers Oregon, Washington, Idaho, and Montana. Altogether, 21 cutters, 132 boats, and

11 aircraft are under the command of Coast Guard District 13. Washington defense contractors sell boats to the Coast Guard, provide maintenance services, and sell specialized equipment like diving gear. (U.S. Coast Guard, 2016)

Joint Base Lewis-McChord, located south of Tacoma, is the result of Base Realignment and Closure Commission recommendations in 2005 that combined McChord Air Force Base with Fort Lewis in 2010. The base has several training centers as well as landing zones for C-17 Globemasters, large military transport aircraft that can be used for strategic airlift operations, cargo transport, medical evacuations, and humanitarian aid. Camp Murray, Washington's primary National Guard location, is located close to the base. (Department of Defense, 2016)

In the east of the state, Spokane's Fairchild Airforce Base hosts the 92nd Air Refueling Wing. The KC-135 Stratotanker, an aerial refueling aircraft based on the Boeing 367 prototype, is the mainstay of the 92nd Air Refueling Wing. Other operations at Fairchild Airforce Base include aircraft maintenance and repair. (Fairchild Air Force Base, 2016)

Washington State's defense contractors support these bases as well as activities in other states. Contractors offer their expertise to the Department of Defense and Coast Guard, providing aircraft and related maintenance and repair, specialized small craft, marine construction, software and telecom equipment, advanced medical devices and supplies, and green construction, among many other things. In fiscal year 2014, Washington contractors were paid $5.8 billion for products and services provided to the Department of Defense and Coast Guard.

GLOBAL DEFENSE ENVIRONMENT

Defense Spending

Washington's defense contractors compete in the global defense market. For this reason, it is important to understand which countries and broader regions spend the most on defense. At the same time, reviewing past trends in U.S. defense spending helps characterize the environment in which the state's contractors operate.

Global Defense Spending

The U.S. is by far the largest individual defense spender, with $0.58 trillion spent on defense in 2014. This represents 3.5% of the nation's GDP, a high investment compared to the rest of the world. Overall, countries across the world spent 2.3% of global GDP on defense. (Stockholm International Peace Research Institute, 2016)

Asia Pacific countries typically spend a less than the global average as a share of GDP, especially East Asian nations. Japan, South Korea, and

China spent 1.0%, 2.6%, and 2.1% respectively. China was the largest defense spender of the three at $191.0 billion. Japan's 2016 defense budget rose to $41.4 billion. The country's annual defense expenditures have remained fairly consistent from the late 1990s to today, increasing or decreasing by small increments year over year. (Stockholm International Peace Research Institute, 2016)

In 2014, Japan's defense expenditures were less than half a percent lower than they were in 2000. China, on the other hand, has rapidly increased defense spending in the past 14 years: in 2014, the country spent $216.4 billion (USD, 2014 $), up from $22.2 billion in 2000, a compound annual growth rate of 17.7%. South Korea represents the middle ground between the two, with growth of 2.3% per year from 2000 to 2014. (Stockholm International Peace Research Institute, 2016)

Southeast Asian nations spent between 0.6% (Timor Leste) and 4.3% (Myanmar) per year over this same period, with most grouped around 1.5%. Oceanic nations had some of the lowest defense expenditures as a share of GDP, including Australia (1.8%), Papua New Guinea (0.6%), New Zealand (1.2%), and Fiji (1.2%). (Stockholm International Peace Research Institute, 2016)

India, the world's second most populous nation, spent just under $50 billion on defense in 2014, or 2.1% of its GDP. Its neighbors, Pakistan and Afghanistan, spent 3.1% ($7.8 billion) and 1.2% ($0.2 billion) respectively. Countries in the Middle East had some of the highest defense expenditures as a share of GDP: Saudi Arabia spent 10.4% ($73.7 billion) and Oman spent 11.6% ($9.0 billion). Israel, Iraq, and Jordan also had high expenditures at 5.2%, 4.2%, and 3.5% of GDP respectively. (Stockholm International Peace Research Institute, 2016)

North African expenditures on defense were also high as a share of national GDP. Libya spent 6.2% of its GDP, Algeria spent 5.4% of its GDP, and Morocco spent 3.7% of its GDP on defense in 2014. Data on Sub-Saharan Africa is limited, however data for known countries suggests regional spending around 1.4% of GDP. In general, these countries spend in the low hundreds of millions to around six billion. (Stockholm International Peace Research Institute, 2016)

Countries in Europe spent in the middle of the range in terms of defense spending as a share of GDP, but higher on the range in terms of total money spent. The U.K., Germany, France, and Italy spent 2.2% ($54.9 billion), 1.2% ($46.6 billion), and 1.5% ($31.0 billion) respectively. (Stockholm International Peace Research Institute, 2016)

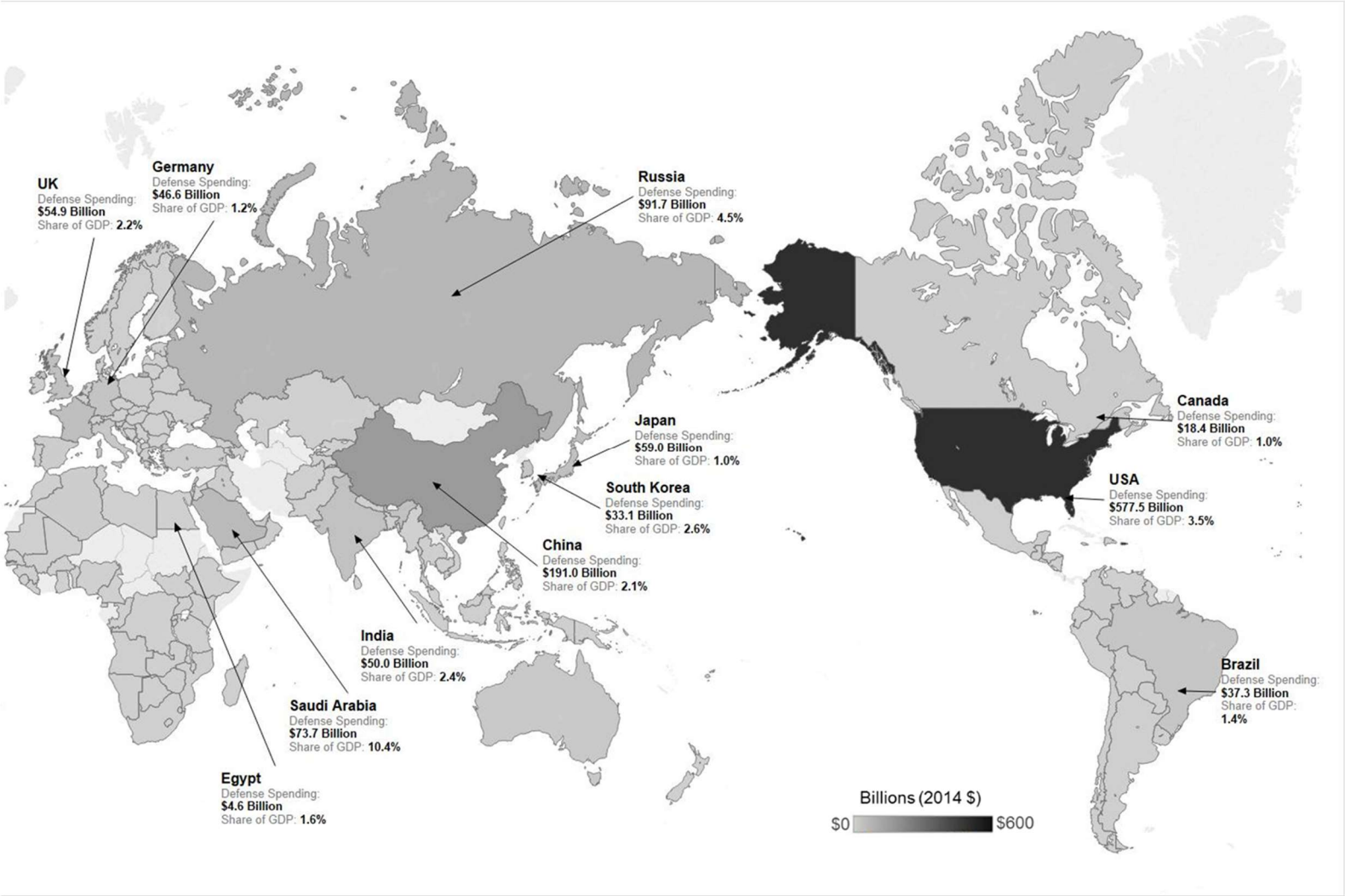
Exhibit 1. Regional GDP in Trillions and Defense Spending as a Share of GDP, 2014

Region	Regional GDP, Trillions	Defense Spending as a Share of GDP
Middle East	$2,944	5.3%
North Africa	$418	4.6%
North America	$18,365	3.2%
South Asia	$2,607	2.4%
Europe	$21,507	1.8%
East Asia	$19,414	1.7%
Oceania	$1,747	1.7%
South America	$4,508	1.6%
Sub-Saharan Africa	$1,443	1.4%
Central Asia	$240	1.1%
Central America and the Caribbean	$1,435	0.7%
Global	$74,626	2.3%

Sources: Stockholm International Peace Research Institute, 2015.

Each region represents a unique set of opportunities and challenges from the standpoint of defense spending alone. Countries with high defense spending as a share of GDP represent an important opportunity for defense contractors, both in terms of expanding their client base and in terms of contributing to global security. At the same time, the world's largest defense spenders in terms of total money spent may not necessarily have the highest defense spending as a share of GDP. The largest defense spenders are often stable contributors to global security and valuable trade partners.

Exhibit 2. Global Defense Spending, 2014



Sources: Stockholm International Peace Research Institute, 2015.

Global Defense Spending Outlook

The Stockholm International Peace Research Institute (SIPRI) estimates that global military expenditures increased by 1% from 2014 to 2015. Researchers at the Institute noted two key trends. First, that the falling global price of oil has resulted in significantly lower spending for countries reliant on oil revenue. Venezuela, for example, reduced its defense expenditures by 64%. Similar, though comparatively smaller, decreases were seen in Bahrain, Brunei, Chad, Ecuador, Kazakhstan, Oman, and South Sudan. Other oil-reliant countries, on the other hand, actually increased defense expenditures. These countries include Algeria, Azerbaijan, Russia, Saudi Arabia, and Vietnam.

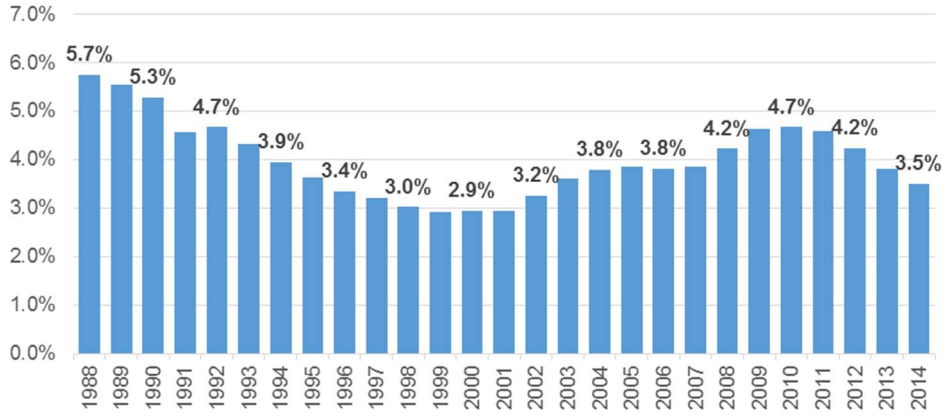
The second key trend is a reversal of the recent decline in Western military spending. Spending in Central Europe increased 13% from 2014 to 2015, and the United Kingdom, France, and Germany have announced defense spending increases. These two trends, decreased spending in tandem with the global decline in oil prices, and increased spending in response to regional tensions, contrast significantly. (Stockholm International Peace Research Institute, 2016)

A 2014 survey of business leaders conducted by McKinsey identified several key trends in how businesses view defense export markets. In 2014, businesses showed increased interest in the Middle East as a market for defense products from 2012 and significantly decreased interest for Brazil as a market for defense products. Companies were increasingly optimistic about the growth potential of cybersecurity and less interested in aerospace. (McKinsey, 2015)

Defense Spending in the U.S.

U.S. defense spending as a share of GDP has changed significantly over time, following broad trends in the global security environment. At the height of the Cold War in the 1980s, U.S. defense spending as a share of GDP was as high as 5.7%. This number dropped steadily following the dissolution of the U.S.S.R. up until 2002, when U.S. defense spending increased together with the onset of the war in Afghanistan. Defense spending reached a recent peak of 4.7% of GDP in 2010 before dropping to pre-War on Terror levels. This is due to a combination of decreases in total defense spending and increases in total GDP during the recovery from the Great Recession. (**Exhibit 3**)

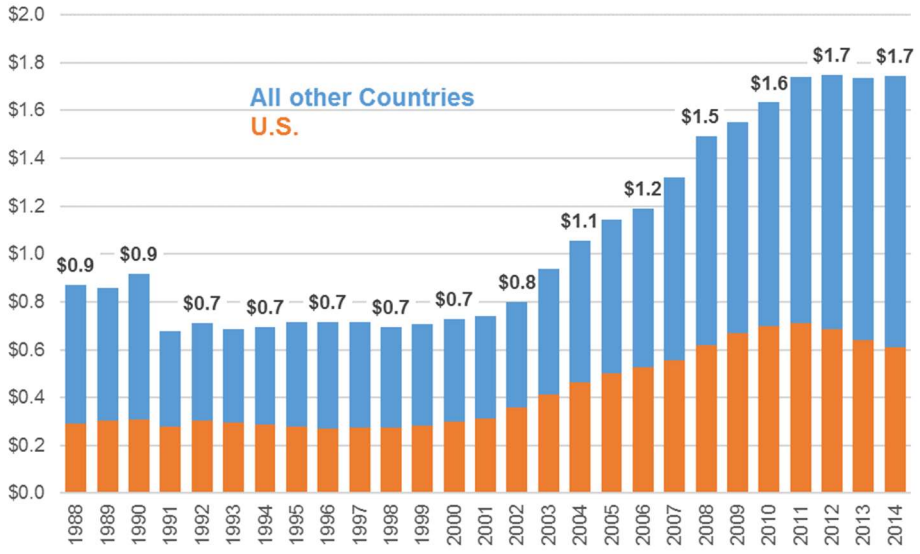
Exhibit 3. U.S. Defense Spending as a Share of GDP, 1988-2014



Sources: Stockholm International Peace Research Institute, 2015.

Globally, the end of the Cold War saw a sharp drop in defense spending that began to gradually increase again in the early 2000s. The second shift began in 2012 as the nation's recovery from the Great Recession began in earnest. U.S. defense spending began to drop in 2011, while defense spending from all other countries increased. The combination of the U.S. decrease in spending with the increase in spending from all other countries resulted in a near net zero change. (**Exhibit 4**)

Exhibit 4. U.S. and Global Defense Spending, 1988-2014, Trillions of 2014 Dollars



Sources: Stockholm International Peace Research Institute, 2015.

Future changes in U.S. defense spending are difficult to forecast with confidence. In recent years, the most significant shifts in spending have

been responses to changes in the global security environment and economic climate. The Office of Management and Budget's unified federal budget indicates that the nation's defense spending will decline to $607.4 billion in fiscal year 2020 (**Exhibit 5**).

Exhibit 5. U.S. Federal Unified Budget, National Defense and Other Functions, 2016-2020, Billions

Sources: Office of Management and Budget, 2016.

Offsets

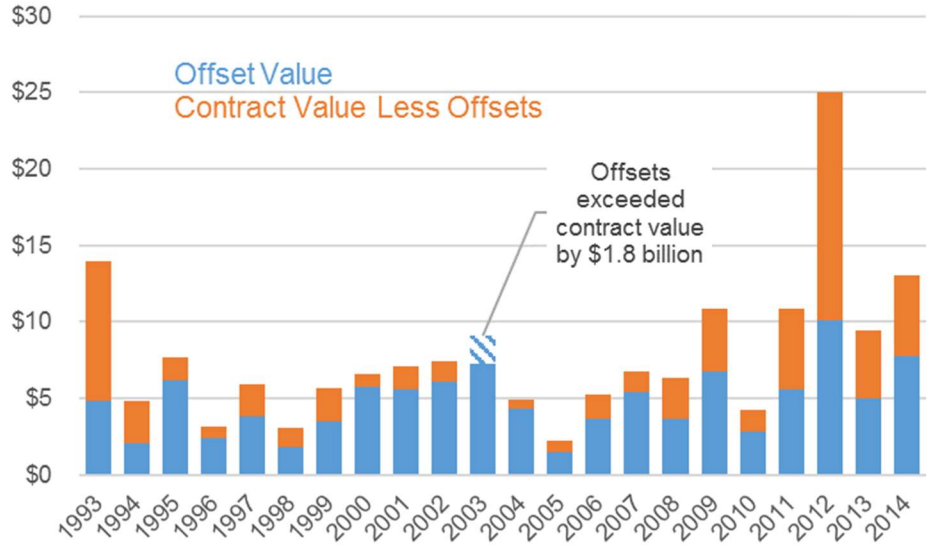
Offsets are a broad range of industrial and economic compensation agreements between sellers of defense articles and the foreign countries to which they make sales. These are required as a condition of sale, and are typically involved in large agreements. In 2014, U.S. defense contractors reported entering into 50 new offset agreements with 17 countries. The value of these contracts totaled $13.1 billion, and the offset element was valued at $7.8 billion or 59% of total contract value.

The Bureau of Industry and Security notes that offset agreements can help sustain U.S. defense contractors and result in a more robust domestic defense industry. However, the bureau also recognizes that offset agreements can negate some of the economic benefits accrued to the U.S. of foreign defense sales. The U.S. Government policy on offsets in the defense trade is that such offsets are "economically inefficient and trade distorting" and prevents any U.S. agency from encouraging or committing U.S. firms to any offset agreement. (Bureau of Industry and Security, 2016)

U.S. defense contractors that engage in offsets are required to report them to the Bureau of Industry and Security of the offset agreement exceeds $5 million in value. Historically, offsets have represented a large share of the total contract value. In 2003, the value of offsets actually exceeded total contract value by $1.8 billion. From year to year, both the value of

contracts with offsets and the share of contract value that goes to offsets change significantly. (**Exhibit 6.**)

Exhibit 6. Contracts with Offsets, 1993-2014, Billions of Nominal Dollars



Source: Bureau of Industry and Security, 2016.

Export contracts that are associated with offsets are typically very large; in 2014, the average contract with an offset reported to the Bureau of Industry and Security had a value of $261 million. In the past, that average has been as high as $582 million (in 2013) and as low as $73 million (in 1998). (Bureau of Industry and Security, 2016)

Offsets and their related contracts have an important role in terms of total defense exports. It is important to note that the year in which defense export sales with offsets and the value of said offsets occurs before the actual export of related goods. For this reason, defense export sales with offsets in 2003 may not be seen in the data until 2004, 2005, or even later. Even with this in mind, it is valuable to assess defense export sales with offsets and total defense-related merchandise exports in aggregate. On average, roughly half of defense-related merchandise exports by value have offsets. The total value of offsets is equal to roughly 35% of the total value of defense-related merchandise exports. (**Exhibit 7.**)

Exhibit 7. Total Merchandise Exports, Defense-Related Merchandise Exports, and Related Offsets, 2003-2014, Millions of Nominal Dollars

Year	Total Merchandise Exports	Defense-related Merchandise Exports	Defense Export Sales with Offsets	Value of Offsets
2003	$724,771	$11,509	$7,293	$9,110
2004	$814,875	$11,884	$4,928	$4,330
2005	$901,082	$12,835	$2,260	$1,464
2006	$1,025,968	$16,629	$5,265	$3,655
2007	$1,148,199	$16,894	$6,736	$5,438
2008	$1,287,442	$16,594	$6,294	$3,672
2009	$1,056,043	$14,796	$10,841	$6,731
2010	$1,278,495	$15,304	$4,239	$2,783
2011	$1,482,508	$14,911	$10,879	$5,586
2012	$1,545,821	$17,231	$25,025	$10,108
2013	$1,578,439	$17,619	$9,428	$4,986
2014	$1,620,532	$20,559	$13,058	$7,773

Source: Bureau of Industry and Security, 2016.

While offsets have their drawbacks, they are often employed as a condition of making a contract happen. Offsets can make large defense sales more palatable to foreign countries, giving them the assurance that they will be able to retain some of the economic value of the proposed defense contract. At the same time, offsets can encourage international expansion of U.S. defense contractors, which can be beneficial to the U.S. defense industry. Offsets are an important element of the international defense contracting environment, and accepting offset conditions can be the key required to complete large defense export deals. (Bureau of Industry and Security, 2016)

GEOPOLITICAL CONSIDERATIONS

Each region of the world has important geopolitical themes driving changes in security and trade. These themes impact connections across the globe and are important to weigh when considering forging a new connection or strengthening an existing one. For Washington's defense contractors, understanding the interplay of foreign country's trade goals with geopolitical trends is a key step in assessing export opportunities.

An important consideration for potential and existing exporters in the U.S. is how the strength of the U.S. dollar compares to that of target export markets. U.S. goods are more favorable in markets in which the U.S. dollar is relatively weak; foreign trade partners are able to purchase U.S. goods at low prices relative to their own currency.

In late 2015 and early 2016, the U.S. dollar continued to gain against several important currencies, including the Chinese Renminbi, the British

Pound, and the Euro. These gains increase the buying power of the dollar relative to other countries, making exports U.S. goods more expensive for foreign trade partners. Whether this is a short-term situation or a long-term trend will have implications for the global trade environment for years to come. (The Guardian, 2015; CNN, 2016; The Washington Post, 2016)

Another important concern is the role of changing oil prices. Starting in the middle of 2014, global crude oil prices as measured by Brent crude oil spot prices began to drop. As of March 2016, the measure of oil prices had dropped 66% from a local peak of 111.8 in June 2014 to 39.5. The price of oil has effects that ripple throughout the global economy. Costs drop for air and maritime transportation companies, consumers travel more, and countries reliant on oil revenue face new economic burdens. Major shippers and transportation companies have less of an incentive to switch to more efficient technologies, impacting the aerospace, maritime, and clean technology sectors worldwide. Countries that rely heavily on oil exports have been experiencing negative effects of depressed oil prices. Venezuela, the fifth-largest member of OPEC by oil production, has been particularly affected by the change in oil prices.

Exhibit 8. Brent Crude Oil Monthly Average Dollars per Barrel, April 2003 through July 2016

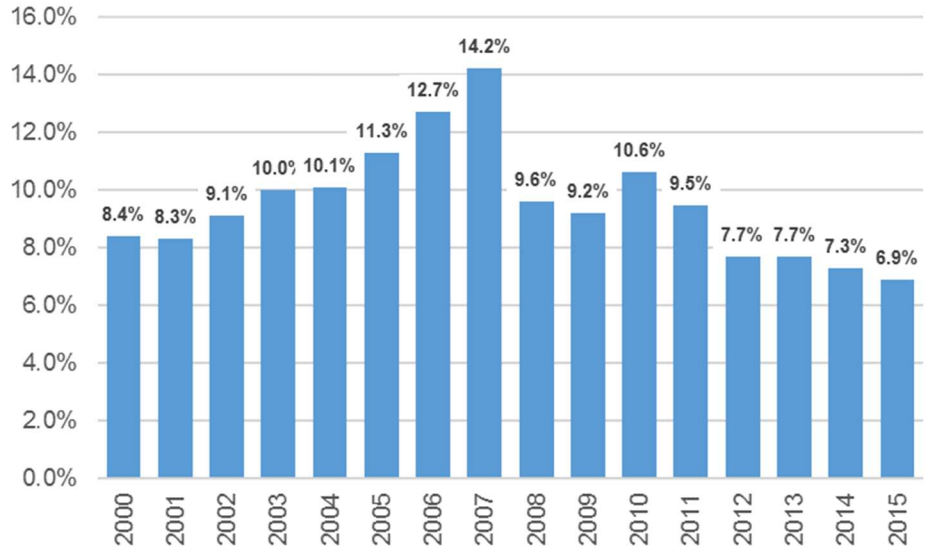
Source: United States Energy Information Administration, 2016.

Asia Pacific

With two of the three largest global economies—Japan and China—and a number of rapidly developing nations, the Asia Pacific represents an important trade opportunity for Washington's defense contractors. Recent efforts at free trade in the region as well as maritime and security issues make entering the region a complex proposition.

An important consideration for the any export activity in the region is the uncertainty surrounding China's recent economic slowdown. For more than two decades, the country sustained high economic growth, with GDP increasing 10% per year in recent years. Recent years, however, have seen the nation's economic momentum slow down. In 2015, the country's GDP increased by 6.9% over the previous year, the lowest rate since 2000. The implications of a slowing Chinese economy are yet to be seen, but regardless of how the country's growth changes in the upcoming years.

Exhibit 9. Annual Chinese Real GDP Growth, 2000-2015



Source: International Monetary Fund, 2016.

Pacific Pivot

In 2011, the Obama Administration announced that it would be expanding and intensifying its role in the Asia Pacific region. This includes an expansion of free trade efforts made by the Obama administration earlier in his term as well as trade efforts undertaken with India and Vietnam during the George W. Bush Administration. At the same time, the pivot includes new troop deployments and rotations aimed at increasing regional stability. Recent years had seen several countries in the region asking for an increased U.S. military presence. The Pacific Pivot is designed to shift the U.S.'s military and diplomatic priorities in tandem with the global economic shift towards the region (Congressional Research Services, 2012).

Trade

Existing trade pacts may present barriers for non-participating countries. The Asia Pacific region is home to an important free trade agreement. The Association of Southeast Asian Nations (ASEAN) is a free trade

agreement between Brunei, Cambodia, Myanmar, Laos, Indonesia, Malaysia, the Philippines, Thailand, Vietnam, and Singapore. The agreement represents a *de facto* barrier to trade for outsiders, making goods from member states more attractive to other member states and making goods from non-member states less attractive.

An important tool for regional stability grew out of the ASEAN arrangement with the addition of South Korea, China, and Japan to the group: ASEAN Plus Three (APT). APT countries have a forum for communication and collaboration. Additionally, member nations have a currency swap arrangement designed to address short-term government liquidity issues like those that drove Thailand to float the Thai Baht in 1997, helping to spur the Asian Financial Crisis. Currently, APT countries can draw from a pool of $240 billion to meet liquidity issues. APT is simultaneously a signal of increasing regional cooperation, a tool for regional economic security, and a barrier to foreign trade, making it a key issue to consider when assessing the Asia Pacific region. (Association of Southeast Asian Nations, 2016)

The Trans-Pacific Partnership (TPP), a recent addition to the regional geopolitical landscape, has the potential to drastically change how trade is done between the U.S. and other nations in the Pacific. TPP was designed to eliminate or reduce many tariff and non-tariff barriers between member states, address changes in the digital economy, provide a platform for regional integration, and support a framework for internationally-integrated supply chains. How the agreement will change trade to and between nations in the Pacific remains to be seen. (Office of the Untied States Trade Representative, 2015)

Maritime Disputes

Maritime disputes in the Asia Pacific represent an important source of tension for the region's nations and may spur an increase in the region's defense spending. According to the United Nations Convention on the Law of the Seas (UNCLOS), an exclusive economic zone of 200 nautical miles extends beyond states' shores. This UNCLOS designation describes a state's right to resources under the sea, such as rare earth metals or natural gas deposits. The innermost 12 nautical miles of this zone are territorial waters, designed by UNCLOS as under complete state sovereignty. With this in mind, territorial disputes over uninhabited islands take on an economic meaning.

One such example is a chain of eight uninhabited islands in the East China Sea, named the **Senkaku Islands** by Japan and the **Diaoyu Islands** by China. Northeast of Taiwan, the islands are close to fishing grounds and potentially lie oil and gas reserves. Located along important shipping lanes, they are also strategically significant. Claims in the region go back to the late 1800s, when Japan surveyed the islands and

incorporated them into Japanese territory. At the conclusion of World War II, Japan ceded the islands to U.S. trusteeship. (British Broadcasting Corporation, 2014; Center for Strategic and International Studies, 2013)

The islands were returned to Japan in 1971 under the Okinawa reversion treaty. China, however, claims that the islands have been part of the nation since ancient times, historically near fishing grounds administered by the province of Taiwan. This adds a new layer of complexity to the issue: Taiwan was ceded to Japan at the end of the Sino-Japanese war in 1895 and later returned to China. China's claim rests on the notion that the islands were part of China's cession of Taiwan to Japan in 1895 and were returned when Taiwan was returned, a claim directly in conflict with Japan's. At the same time, Taiwan claims the islands as its own entity. (British Broadcasting Corporation, 2014; Center for Strategic and International Studies, 2013)

On all sides, ownership of the islands represents nationalist goals to protect each respective country's borders, economic missions related to the rich fishing grounds and undersea resources, and important security implications for major shipping lanes in close proximity to the islands. Adding further gravity to the issue, the United States is obligated to come to Japan's aid under the 1960 Treaty of Mutual Cooperation and Security; armed conflict surrounding the islands could draw the U.S. into action. The dispute is a source of regional tension, and any overt action from an involved party could impact trade between the nations as well as trade to and from the region as a whole. (British Broadcasting Corporation, 2014; Center for Strategic and International Studies, 2013)

The **Spratly Islands** are another important regional maritime dispute. The chain of more than 100 small islands and reefs are surrounded by fishing grounds and potential oil and gas reserves that make the area attractive from an economic standpoint. Unlike the Senkaku/Diaoyu dispute, the Spratly Islands have six claimants: Brunei, China, Taiwan, Vietnam, the Philippines, and Malaysia. Currently, just under half of the islands are occupied by small numbers of military forces from all claimants except Brunei. (Central Intelligence Agency, 2016; Center for Strategic and International Studies, 2016)

In 2015, Chinese land reclamation operations in the area were revealed. China claims that the operation's goal was to improve the living conditions of Chinese workers in the area, but were decried as illegal construction efforts by other claimants, inflaming the issue further. The dispute has implications for political stability in the region and, like the Senkaku/Diaoyu dispute, represents an important threat to regional security. (Central Intelligence Agency, 2016; Center for Strategic and International Studies, 2016)

In July 2016, an international tribunal in The Hague ruled that these disputed islands in the South China Sea belong to the Philippines. The ruling indicated that some of the waters are "within the exclusive economic zone of the Philippines, because those areas are not overlapped by any possible entitlement of China." This strong ruling has already been denounced by China, and the country has argued for direct talks with the Philippines to settle the dispute. (The Guardian, 2016)

Security

Another important regional geopolitical consideration is North Korea. With recent activities related to missile testing in North Korea and increasing foreign pressure to restrict the country's access to defense articles, the country is under significant stress. China, traditionally North Korea's regional backer, recently banned the import of coal ore and other raw materials from North Korea in support of the U.N.'s sanctions on the country.

Historically, North Korea has used nuclear and missile testing to extract concessions of foreign aid from the U.N., but recent coordinated international embargoes have threatened this strategy. Increased friction between Kim Jong Un's regime in North Korea and the rest of the world continues to be a source of friction and a key consideration for trade to and from the Asia Pacific. (New York Times, 2016; U.S. News, 2016; Center for Strategic and International Studies, 2016)

Europe

Brexit

In June 2016, the UK's citizens voted on whether or not to leave the European Union. With a 52% to 48% final count from 30 million voters, the nation voted to leave the EU. Termed "Brexit", the process resulted in an initial economic shock where the British Pound dropped to a near 30-year low. Britain also lost its AAA credit rating, which means that the cost of government borrowing will be higher. (BBC, 2016)

In the immediate short-term, Britain and the EU will negotiate the country's exit, including unpacking 43 years of treaties and agreements. The process will take two years from the date when the UK formally notifies the EU of its intent to leave. The two-year limit can be extended with a unanimous vote from all EU member countries. (BBC, 2016)

In addition to the short-term economic shock experienced by the UK, it is unclear how Brexit will affect the EU and UK for years in the future. Brexit's proponents argue that it will strengthen the country and improve the nation's economic position, but Brexit's opponents argue that the opposite will happen. (BBC, 2016)

Russian Activities in Eastern Europe

Following attempts by Ukraine to integrate further with the European Union and internal political ethics issues, Russia halted imports of one of Ukraine's exports, chocolate, in 2013. Immediately after, Ukraine backed out of an agreement of association with the E.U. and thousands of protestors took to the streets, accusing the government of bowing to Russian pressure. Early in 2014, Russian forces seized and annexed Crimea, prompting a round of sanctions from the U.S. and E.U. In addition to the trade considerations represented by the sanctions, the conflict itself is important to regional security. (British Broadcasting Corporation, 2015; Center for Strategic and International Studies, 2016)

Refugee Crisis

In 2015, more than a million migrants and refugees crossed into Europe. The sudden influx divided E.U. member states over how best to address immigrants. The largest sources of asylum-seekers in the E.U. in 2015 was Syria at more than 350,000 people, followed by Afghanistan around 175,000 people, and Iraq with 120,000 people. The primary force behind this sudden influx is the conflict in Syria, along with ongoing violence in other countries. Taken together, 1.3 million people claimed asylum in the E.U. in 2014. (British Broadcasting Corporation, 2016; Center for Strategic and International Studies, 2016; Center for Strategic and International Studies, 2016)

Frontex, the E.U.'s border force, estimates that more than 1.8 million people entered the E.U. illegally in 2015. Tensions in the E.U. have risen together with increased immigration, especially in countries receiving a disproportionate number of refugees, such as Greece, Italy, Hungary, Germany, and France. E.U. member states have begun adopting quotas to limit the number of refugees. How the region will respond to the continuing pressure of increased asylum seekers and the friction associated with integrating a large number of migrants will affect the region for years to come. (British Broadcasting Corporation, 2016; Center for Strategic and International Studies, 2016; Center for Strategic and International Studies, 2016)

South America

Illicit Drug Control and Interdiction

Recent years have seen the proliferation of areas of drug cultivation and drug smuggling routes throughout South America. This, combined with the increased fragmentation of drug and criminal enterprises in the region have made government efforts at limiting the drug trade largely ineffective. The United Nations Office on Drugs and Crime reported that, in 2011, 165 metric tons of cocaine were trafficked into the U.S. from the Andean region, along with another 80 metric tons or more trafficked from the region to other parts of the world.

In 2013, an estimated 120,800 hectares of land were used to cultivate cocaine. While regional production in this drug has decreased in the past five years, it remains attractive to smugglers due to its high value concentrated in relatively low weights. For this reason, international pressure surrounding interdiction and efforts at tracking trafficking routes have increased in recent years. (United Nations Office on Drugs and Crime, 2015)

Environmental Concerns

Countries in South America and the Caribbean share several key environmental issues that have important implications for their continued economic development and trade with foreign nations. Issues include those surrounding land use, forest resources, water resources, energy, and industry. According to the United Nations Environment Program, large scale conversion of forest land to agricultural uses in South America and the Caribbean was the major source of deforestation and degradation of the forest ecosystem in the region.

These issues are not unique to South America, and bring up the role of environmental issues in global politics. International initiatives like the Kyoto Protocol, International Carbon Action Partnership, and United Nations Framework Convention on Climate Change add another layer of geopolitical complexity for potential exporters to navigate and understand, especially for exporters of Clean Tech products and services. New programs and trends in South America are addressing climate change through action. Peru, for example, is reaping the benefits of increased environmental control practices in agriculture. (United Nations Environment Programme, 2002; United Nations Environmental Programme, 2015)

Economic and Political Issues

Brazil, one of the fastest-growing economies of the early 21st century and the world's third-largest country by both land mass and population, has slipped into an economic recession. The nation was able to withstand the global economic recession, largely thanks to its high export reliance on raw commodities like soy, oil, and iron ore. Oil prices have fallen in the past two years along with other raw commodities, and in 2015, the nation's economy contracted by 3.8% according to the IMF. The country is also facing political corruption scandals that threaten political stability. A massive kickback scandal was exposed in 2014, involving Brazilian and foreign politicians and business leaders. Several top Petrobras officials--a semi-public Brazilian petroleum company--colluded with other companies to overcharge Petrobras. In exchange, top officials received bribes and kickbacks totaling nearly $3 billion. (The Economist, 2016)

Lifting Sanctions on Cuba

On March 16, 2016, the Department of the Treasury's Office of Foreign Assets Control and the Department of Commerce's Bureau of Industry and Security implemented President Obama's new direction on Cuba. The Obama administration recognized that elements of the sanctions on Cuba have not been functioning, and made moves to amend them. Most of the existing sanctions surrounding Cuba are actually controlled by Congress, and the president has limited control over lifting them. The most important changes implemented in early 2016 include the new opportunities for telecommunications companies and internet service providers to serve the Cuban people (sanctions are still in place preventing contracts with the Cuban government), the hospitality and tourism industries, and for U.S. citizens to visit the country under people-to-people licenses. (United States Department of State, 2016; United States Department of the Treasury, 2016)

Middle East and North Africa

The Islamic State in Iraq and Syria (ISIS) is one of the largest jihadist groups in the Middle East, and a destabilizing element in the region. It grew out of Al-Qaeda in 2013, and has gained attention due to its military activities and significant, public recruitment activities from European countries and the U.S. At the same time, Iran and Russia continue to combat Assad's regime in Syria, playing into ISIS' recruitment message and Iraq faces continuing pressure from the U.S. on one side and Iran on another. Together, these contrary forces result in limited responses to the group. ISIS' destabilizing presence in the region presents an ongoing risk for potential and existing exporters alike.

This risk is compounded by the organization's increasing reach: in 2015, the group's influence in the Sinai region, Afghanistan, and Libya increased significantly. (British Broadcasting Corporation, 2014; Business Insider, 2016; Center for Strategic and International Studies, 2016; Center for Strategic and International Studies, 2016)

Lifting Sanctions on Iran

In January, 2016, the U.S. and E.U. lifted certain oil and financial sanctions on Iran, as well as released $100 billion in assets after inspectors concluded that the country had dismantled large sections of its nuclear program. The sanctions go back to 2010, when broad international embargoes against the country were established to constrain its nuclear program. As the sanctions began, the country's oil exports dropped from 2.5 million barrels per day in 2011 to 1.1 million barrels per day in 2013. By 2014, the country's economy had shrunk by 9%.

In early 2016, Iran agreed to constraints on its nuclear program in exchange for relief from the sanctions. The deal represents a shift in the

regional trade landscape and a potential opportunity for exporters to enter the market. However, schedules for formally lifting the trade sanctions vary from country to country, which may give companies in some countries an advantage over others. Regardless of the deal's short-term implications, it is a watershed event in regional security and international cooperation.

The deal represents, in particular, a loosening of sanctions surrounding the sale of commercial aircraft to non-government entities in Iran. Parts and service contracts related to aircraft sold to Iran are also included under this loosening of restrictions, as may be parts and service contracts to Iran's existing commercial fleet. (New York Times, 2016; Congressional Research Service, 2016; Center for Strategic and International Studies, 2016; Forbes, 2016)

Sub-Saharan Africa

Three regions in sub-Saharan Africa face significant threats from extremist groups: the Sahel, the Lake Chad Basin, and the Horn of Africa. The Sahel is threatened by actions from al-Qaeda, Boko Haram threatens countries in the Lake Chad Basin, and al-Shabaab threatens countries in the Horn of Africa and Somalia. There are several themes common to these separate groups.

First, each of these groups is composed of many smaller, armed groups, making comprehensive action difficult. Each group took advantage of ungoverned and poor areas to gain momentum, and each has expanded its original local goals to broader regional aspirations. While the groups in sub-Saharan Africa are not as sophisticated as ISIS or al-Qaeda in the Middle East, they are operating in much more permissive environments and could grow as regional threats to security. (Center for Strategic and International Studies, 2015)

Global Economic Considerations

Strong U.S. dollar. The dollar has strengthened against many other currencies, particularly among trading partners. A majority of interviewees shared this concern that weakening global currencies make global clients more cautious and risk averse. Along same lines (related), slowdowns in key markets across the globe are affecting, or could affect, demand for Washington products and services.

For some exporters to Europe, they are under growing competitive pressure from German and Chinese producers of similar products and technology which can be sold at lower prices due to the strong dollar.

Health of the U.S. market. In some cases, companies are refocusing on the domestic market due to 1) the strong dollar; 2) an interest in

strengthening local competitive advantage; 3) convenience/logistical ease; and 4) weakening or anemic global prospects.

Decline in commodity prices. Some firms tied to commodity activities, either directly or indirectly (e.g., infrastructure and technology for the oil and gas industry) are not optimistic in the outlook for this side of their business and overseas activities.

Political instability. For firms that perform project work overseas, there are sometimes risks to the safety of employees they send over. In some cases, companies must also build into their contingency planning the potential loss or degradation of equipment and other capital, which for smaller engineering firms can range from $250,000 to $1 million (though some companies may choose to leave equipment in-country due to the cost of bringing it back). One company interviewed for this study reported their work for the oil industry in Colombia was disrupted for 18 months due to a regional takeover by the guerilla organization FARC.

EXPORTING CHALLENGES

This section reports feedback and findings from 35 interviews with current exporters in Washington state across each of the five targeted sectors covered in these reports, along with important themes from reports and news articles.

Small company challenges

Smaller companies have unique challenges when it comes to exporting. Adhering to regulations and getting certifications both have cost and time factors that can be difficult hurdles for small companies. These challenges, as well as patent protection, are larger portions of the overall budget at a small company.

- **Expensive overhead**. Small companies expressed apprehension over the price of traveling overseas, trade shows and hiring local overseas sales staff.
- **IP protection**. Several interviewees had concerns about IP infringement, both in China and other markets. For a small firm like Williamson & Associates, the legal fees required to address these infringements was beyond their means. Another firm, Energy Conversions, found its product was being copied and resold after one shipment to a client in Peru. Intellectual property and patents protection are often not enforced universally, which is a challenge for IP-reliant businesses, JX Crystals for instance.
- **Burdensome regulations**. Some firms expressed concerns about perceived advantages of larger firms over smaller firms in complying with regulations. This view was shared by multiple

interviewees. EU certifications, for example, can be very costly, potentially pricing out smaller firms.

Getting into Exporting and New Markets

Firms interviewed as part of this study shared a wide range concerns and insights into exporting, including how to begin the exporting process. Key findings are summarized below.

- **Varied exporting strategies**. Some firms interviewed indicated their export line of business was proactive and intentional. Others had an export strategy from the start based on the market for their core products or relationships in specific countries. Some firms were motivated to try exporting during the 2008-2009 U.S. recession or after seeing success with global trade shows.
- **Setting up overseas offices**. Some firms are moving from a distributor model to having overseas offices and staff to interact directly with their clients. Some interviewees said this step was challenging, especially finding foreign talent and domestic staff with international experience and foreign language skills.
- **Unintentional path to exporting**. Many firms reported "falling into" exporting and new markets, often times through direct solicitations from overseas clients through their website, as was the case for one firm exporting to Oman. Reputational leads and industry connections have also helped foster overseas business opportunities. Interviewees that were one of few firms that make or supply specific goods said they were found by international customers, or larger companies pointed their subcontractors to them.
- **Anchor markets**. Many companies have used large markets as a means of accessing a broader region. One firm interviewed for this study chose Germany and Japan purposefully due to the size of these markets and proximity to other markets in their regions. Another firm reported working with Gambia and plans to try exporting into neighboring African countries.
- **Client relationships as an entree into exports**. According to at least one firm interviewed in this study, a large share of export sales was due to an existing relationship with Boeing. Another firm leveraged its subcontractor relationship with a major oil and gas equipment provider to access new overseas markets. For another exporter, despite previous unsuccessful, intentional efforts to expand abroad, it was ultimately a mutual business partner who facilitated an introduction to an eventual overseas customer.
- **Doing it without help**. A large number of interviewees indicated they developed their initial foray into overseas markets on their own without the help of state and federal agencies, consultants, and/or other resources. It was common for firms to try their own

strategy because they were not aware of available resources in Washington state or DC. Upon reflection, some firms explained that they might do things differently now, because of the added costs of doing exporting alone. Several said they could have been better informed about exporting.

- **Innovative new applications for foreign markets**. One firm was drawn to exporting because their generic tubing product for kite flying could also be used in other manufacturing processes.
- **Exporting through an acquisition**. According to one firm interviewed as part of this study, their entrance into exporting came through the acquisition of exporting businesses.

REGULATORY CONSIDERATIONS

International Traffic in Arms Regulations (ITAR)

ITAR controls exports from the U.S. that are intended mainly or exclusively for military purposes or that may have direct use in military applications. ITAR are administered by the U.S. State Department's Directorate of Defense Trade Controls. ITAR are issued and enforced under the authority of the Arms Export Control Act (AECA), 22 U.S.C. §2778.

The USML and Export Control Reform

The ITAR list of controlled military items is known as the United States Munitions List (USML). The USML was formerly not a precise or detailed list but was only a generalized list of "defense articles" and "defense services." However, beginning in 2009, the Obama Administration has worked strenuously on its Export Control Reform initiative to revise both the format and content of the USML. This effort sought to align the USML with the Commerce Control List, which is the list of controlled items under the Export Administration Regulations. (The Export Administration Regulations are administered by the Bureau of Industry and Security, an agency of the U.S. Department of Commerce.)

It is difficult to capture succinctly the many profound changes made in ITAR, and especially in the USML, as a result of some seven years of progressive changes. In general, Export Control Reform aims to reduce and simplify the regulatory compliance burden upon U.S. lower tier exporters who support the military and other national security functions, as well as exporters of closely allied nations such as those in the NATO, Japan, Australia and New Zealand. In general, Export Control Reform has sought to: 1) adopt a "positive list" approach to each revised category within the USML; 2) reduce sharply the number of items that must be controlled under the USML; and 3) remove the so-called "catch-all" paragraphs that were formerly used throughout the USML and caused many U.S. suppliers of defense systems to be considered "ITAR-controlled."

As of April 2016 there were 20 categories used in the USML. Of those 20, 14 have already been completely revised under Export Control Reform; three have published proposed rule changes that are pending finalization; and three more categories are still awaiting the Directorate of Defense Trade Controls release of its first proposed rules. **Exhibit A1** shows the current status of Export Control Reform changes made to the USML.

Within the 14 USML categories changed by Export Control Reform, it is now the law that only those items specifically called out as being subject to those categories will be considered ITAR-controlled "defense articles" or "defense services." That much higher degree of specificity about exactly what is to be deemed "ITAR-controlled" is at the heart of Export Control Reform.[1]

Many portions of ITAR have been affected and altered by Export Control Reform to bring more closely align concepts and definitions between ITAR and Export Administration Regulations. This effort takes steps toward a single consolidated control list that can be administered by a single agency, rather than the current fragmented system for U.S. controls.

The Essentials of ITAR Jurisdiction

The procedure for selling ITAR-controlled items overseas is quite distinct from the process outlined elsewhere in this report for so-called "dual use" items, which are controlled for export under the Export Administration Regulations and not ITAR. The following paragraphs outline regulatory components of selling ITAR-controlled items, as based on existing literature.

First, affected companies that come within the Directorate of Defense Trade Controls' jurisdiction under ITAR must register with the DDTC, pay a fee and obtain a registration code. This is a legal requirement even if a company never exports and nor sells any of its ITAR-controlled items or services outside the U.S. In other words, even if a company has only domestic customers for its ITAR-controlled items or services, it still must go through this annual registration process and pay an annual registration fee.

Second, if a company is deemed within DDTC's jurisdiction, it must apply to DDTC for an export license before exporting an ITAR-controlled item or service. With the exception of a special case for certain qualified exports to Canada, virtually any ITAR-controlled item or service export—to anywhere in the world—will require such a DDTC export license. To apply for this license, companies must have an active D-Trade online

[1] The most current ITAR with all adopted Export Control Reform changes thus far may be found at on the State Department's website. In addition, the website of the Directorate of Defense Trade Controls contains various helpful guides and FAQs.

account with the DDTC. This is a separate process from DDTC registration, but is contingent upon having a current DDTC registration code. All license applications to DDTC are handled online through a D-Trade account, and paper-based applications are no longer permitted.

Third, under ITAR, a company must also have DDTC approval for any international technology transfers contracts before they can take place. There are also DDTC-prescribed forms of Technology Assistance Agreements and Manufacturing License Agreements.

Fourth, when a company submits a DDTC export license application, it must enter the required data into a template via the D-Trade online system, and include supporting documents like an explanatory letter and a signed purchase order or contract with the customer. A company is held accountable for the accuracy and completeness of its statements made to DDTC.

Fifth, if DDTC does issue an export license, authorized activities or transactions can be subject to various express terms and conditions that will be stated within the license.

Prohibited Countries & Prohibited Customers

DDTC maintains a list of specific countries as to which there is a "policy of denial" that forbids any export of "defense articles" or "defense services" to those nations (ITAR Section 126.1). That list includes the People's Republic of China, among others. DDTC also lists parties who are barred from participating directly or indirectly in the export of "defense articles," including technical data, or "defense services," for which an ITAR license or approval is required (ITAR Section 127.7).[2]

Export Administration Regulations (EAR)

Export Administration Regulations (EAR) cover dual-use items. Items such as helicopters, small craft, and electronic components could be used for either civilian or military purposes and are thus considered dual-use. EAR-controlled items are delineated in the Commerce Control List (CCL), which consists of 10 categories.

[2] That list of statutorily debarred parties is located at: www.pmddtc.state.gov/compliance/debar.html.

Exhibit 10. Commerce Control List Categories

Category	Description
0	Nuclear Materials, Facilities and Equipment, and Miscellaneous
1	Materials, Chemicals, Microorganisms, and Toxins
2	Materials Processing
3	Electronics
4	Computers
5	Telecommunications and Information Security
6	Lasers and Sensors
7	Navigation and Avionics
8	Marine
9	Propulsion Systems, Space Vehicles, and Related Equipment

Source: EAR, 2016.

Products and technologies included in the CCL require export licenses, depending on the destination country, receiving party, and ultimate use. In some cases, exclusions or exemptions exist that remove the licensing requirement. Exports of EAR-controlled items to embargoed countries is prohibited, and license applications to export to these countries will be denied. (Bureau of Industry and Security, 2016; Massachusetts Institute of Technology, 2016)

Critical Concept: "Deemed Exports"

An additional level of compliance revolves around "deemed exports." This term refers to "any release of technology or source code subject to the EAR to a foreign national…is deemed to be an export to the home country of the foreign national" (Export Administration Regulations, Part 734, 2016). ITAR, while slightly different, has a similar concept of deemed exports covering "the oral, visual, or documentary disclosure of technical data by U.S. persons to foreign persons" (Export Arms Control Act, Title 22, 2016).

This element of export controls has compliance stipulations that may not be obvious for companies. Noncompliance can occur when a company demonstrates its product to a foreign national, gives a potential client a factory tour, sends or receives technical documents to or from a foreign country, or participates in educational collaborations with foreign nationals, among many other situations.

Understanding the role and definition of deemed exports is a key element of any export compliance program. Deemed exports are a powerful motivator for exporters to integrate export compliance programs into all of their activities: Controlled material can be considered a deemed export. (Bureau of Industry and Security, n.d.; Directorate of Defense Trade Controls, 2006; Bloomberg, 2012)

Financial Sanctions

Sanctions can be imposed on specific countries or on specific industries within countries. Exporters must consider these sanction when exploring new markets, and they can be used to filter potential export markets.

The U.S. Department of the Treasury maintains financial sanctions against a number of different countries in conjunction with foreign policy and national security goals. As of April 2016, the department administered 28 sanctions.[3] Notably, elements of sanctions on Iran and Cuba have recently been removed. (Office of Foreign Assets Control, 2016)

According to the U.S. Department of the Treasury, aspiring exporters need to verify that the final user of their products is not a prohibited entity. This includes checking the Department of the Treasury's sanction programs and the Specially Designated Nationals list.

If a country is under an embargo, it is not necessarily excluded from all trade from the U.S. For example, sanctions by the U.S. on Venezuela only relate to specific blocked entities and individuals. (Department of the Treasury, 2015)

UN Sanctions

The U.N. Security Council uses sanctions as an economic tool to maintain or restore international peace and security. U.N.-imposed sanctions that are relevant to U.S. companies are implemented through U.S. regulations, including financial sanctions and items prohibited under ITAR or EAR. Most of the sanctions undertaken by the U.S. are also imposed by U.N. members.

[3] For a complete list of sanctions administered by the U.S. Department of the Treasury, please see the appendix, Exhibit A2.

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APPENDIX

Exhibit X delineates the countries and regions for which the U.S. Department of the Treasury maintains financial sanctions. Export to one of these countries or in one of these industry areas may be denied due to the presence of sanctions.

Exhibit A-1. United States Department of the Treasury Financial Sanctions

Sanction	Date Modified
Balkans-Related Sanctions	(07/09/2015)
Belarus Sanctions	(10/29/2015)
Burma Sanctions	(12/07/2015)
Burundi-Related Sanctions	(02/03/2016)
Central African Republic Sanctions	(03/08/2016)
Cote d'Ivoire	(07/30/2015)
Counter Narcotics Trafficking Sanctions	(04/04/2016)
Counter Terrorism Sanctions	(04/05/2016)
Cuba Sanctions	(03/15/2016)
Cyber-related Sanctions	(12/31/2015)
Democratic Republic of the Congo-Related Sanctions	(07/08/2014)
Iran Sanctions	(03/24/2016)
Iraq-Related Sanctions	(04/04/2016)
Lebanon-Related Sanctions	(07/30/2010)
Libya Sanctions	(11/13/2015)
Magnitsky Sanctions	(02/01/2016)
Non-Proliferation Sanctions	(03/24/2016)
North Korea Sanctions	(03/16/2016)
Rough Diamond Trade Controls	(05/21/2008)
Somalia Sanctions	(07/05/2012)
Sudan Sanctions	(03/09/2016)
South Sudan-related Sanctions	(04/04/2016)
Syria Sanctions	(11/25/2015)
Transnational Criminal Organizations	(02/16/2016)
Ukraine-/Russia-Related Sanctions	(12/22/2015)
Venezuela-Related Sanctions	(07/10/2015)
Yemen-Related Sanctions	(04/14/2015)
Zimbabwe Sanctions	(03/22/2016)

Source: United States Department of the Treasury, 2016.

Exhibit A-2. Current Status of ECR Changes to USML, April 2016

Category Number	Category Title	Proposed Rules Date	Final Rules Effective Date
I	Firearms	---	---
II	Guns	---	---
III	Ammunition	---	---
IV	Missiles	18-Mar-13	1-Jul-14
V	Explosives	18-Jun-12	1-Jul-14
VI	Vessels	6-Jun-12	6-Jan-14
VII	Vehicles	20-Jan-12	6-Jan-14
VIII	Aircraft	22-Dec-11	15-Oct-13
IX	Training Equipment	30-Jul-12	1-Jul-14
X	Protective Equipment	23-Jul-12	1-Jul-14
XI	Military Electronics	November 28, 2012; July 25, 2013	30-Dec-14
XII	Sensors	5-Apr-15	---
XIII	Aux. Military Equipment	2-Jul-12	6-Jan-14
XIV	Chemical/Biological Agents	17-Jun-15	---
XV	Satellites	8-Jul-13	27-Jun-14
XVI	Nuclear	18-Mar-13	1-Jul-14
XVII	Classified Articles, Technical Data, & Defense Services	22-Dec-11	15-Oct-13
XVIII	Directed Energy	17-Jun-15	---
XIX	Gas Turbine Engines	20-Jan-12	15-Oct-13
XX	Submersibles	6-Feb-12	6-Jan-14
"Specially Designed"		3-Aug-12	15-Oct-13
Transition Rules		6-Aug-12	15-Oct-13

Source: Dorsey & Whitney LLP, 2016.