



## 2016 Defense Markets Report

### Overview and Key Findings

#### Introduction

The United States continued to dominate global defense spending in 2015 with 36 percent of total world military spending, but this was a reduction from previous years, causing U.S. industry to face fiscal tightening domestically. This report highlights opportunities for U.S. aerospace and defense companies to further engage in global exports and uncover strategic growth markets. European countries are responding to regional instability by reversing defense cuts for 2016. Overall global defense spending increased for the first time in five years, to roughly \$1.68 trillion in 2015, and is projected to maintain this momentum in 2016 due to national security concerns in many regions.<sup>1</sup> Global tension, combined with increased conflict in the Middle East and global terrorism, will drive defense spending, leading to global market opportunities for U.S. defense exporters.

#### Industry Overview and Competitiveness

##### Product Categories

This report provides a snapshot of defense articles falling broadly into seven military end use categories, using Census export data (note the Census end-use data does not include trade in services).

- *Military aircraft, including all aircraft, helicopters, fighter jets and military spacecraft, and guided missiles* (End use code 50000)
- *Aircraft launching gear, including parachutes* (End use code 50010)
- *Engines and turbines for military aircraft* (End use code 50020)
- *Military trucks, armored vehicles, etc.* (End use code 50030)
- *Military ships and boats* (End use code 50040)

- *Tanks, artillery, missiles, rockets, guns and ammunition* (End use code 50050)
- *Military apparel and footwear* (End use code 50060)
- *Parts for military-type goods: safety fuses, propellers and rotors, undercarriages, and other parts for use in military aircraft, spacecraft or spacecraft launch vehicles* (End use code 50070)

The aerospace sector comprised over half of total U.S. military exports during 2013 through 2015. The top three defense sectors by value during 2013 through 2015 were:

- During 2015, military aircraft parts (50070) comprised the highest percentage of U.S. military exports (32 percent), while tanks, artillery, missiles, rockets, guns and ammunition (50050) ranked second (23 percent), followed by a lower volume of military aircraft exports (50000) (19 percent).
- In 2014, U.S. military aircraft parts (50070) comprised 30 percent of total military exports, followed by military aircraft (50000) (25 percent). Military aircraft posted the most significant increase from the previous year (2013), up 79 percent. Tanks, missiles, etc. (50050) ranked third (20 percent) in 2014.
- Again in 2013, aircraft parts (50070) comprised the greatest percentage of U.S. military exports (35 percent). Although aircraft (50000) ranked third during 2013 (16 percent), this may be explained by the longer delivery life cycle of aircraft over aircraft parts. Aircraft parts naturally follow military aircraft sales for on-going maintenance, repair and overhaul (MRO).

Many of the top U.S. defense companies are market leaders in air platforms, military aircraft

manufacturing and military aircraft technology, as well as major service providers in the sea and land domains. An increase in military aircraft sales naturally leads to increased business for manufacturers of missiles, bombs and ammunition associated with those platforms.

The significant demand for U.S. military parts and light attack and surveillance aircraft, in addition to tanks, artillery, missiles, rockets, guns and ammunition, is expected to continue into the next decade and poses a significant opportunity for U.S. manufacturers. Another projected growing sector is maritime patrol aircraft, with particular growth for this segment expected in Southeast Asia and markets bordering the South China Sea.

A critical export promotion strategy for military parts—whether for air or land-based platforms—requires detailed knowledge of a country's fleet, inventory and overall capability. All defense sales require knowledge of country capacity for a given article or technology, along with its maintenance and production capability.

For more detailed information on markets for aircraft parts, readers should refer to the [Aircraft Parts Top Markets Report](#). For information on "Military Protective Outer wear," please reference the [Technical Textiles Top Markets Report](#). All *Top Markets Reports* are available at [www.trade.gov/topmarkets](http://www.trade.gov/topmarkets).

***The Defense Export Handbook***, which covers how to export defense items and includes additional resources, is also available separately. It includes export promotion strategies and resources, a brief update on Export Control Reform (ECR) and export controls, as well as defense acquisition resources, highlights and general guidance to navigate the international export process for this sector.  
<http://www.trade.gov/td/otm/aero>.

### New Markets, Trends and Opportunities

Domestically, a whole new wave of innovation and technology is expected to be unleashed in upcoming years, but these items may not be approved for export in the near future. These categories could include hypersonic weapons, robotics, undersea systems, cyber warfare and other cutting-edge technologies. Other new markets on the horizon include programs of significant value, such as the next generation intelligence, surveillance and reconnaissance (ISR) technologies.

It should be noted that many types of sensitive technologies can only be sold to our closest allies; therefore, companies must work closely with United States Government (USG) if they are uncertain of any export restrictions.

Opportunities will exist for companies able to address new threats, including areas such as cyber security and unmanned combat vehicles on land, at sea and in the air with precision strike.

Global aerospace and defense (A&D) leaders design, develop and produce major platforms and subsystems. According to a 2013 industrial base report published by DOD,<sup>2</sup> however, often 60 to 70 percent of defense dollars provided to prime contractors is subcontracted. The subcontractors in turn use many of their own suppliers, who are often small and innovative firms. Major U.S. A&D companies have extensive supply chains, and SMEs are encouraged to visit both domestic and international competitor websites. Italy's Finmeccanica has over 30,000 global suppliers.<sup>3</sup> Companies seeking to export should explore opportunities and build partnerships in these supply chains.

### International Agreements

Key international agreements regarding international defense procurements are the bilateral Reciprocal Defense Procurements Memoranda of Understanding (RDP MOUs) the United States has negotiated with 23 countries. The RDP MOUs include procurement principles and procedures that provide transparency and access for each country's industry to the other country's defense market. The RDP MOU relationship facilitates defense cooperation and promotes

rationalization, standardization and interoperability of defense equipment.<sup>4</sup>

The United States has bilateral defense trade treaties with the UK and Australia. The United States and Canada also implement a special defense relationship, which is applied through a variety of agreements and treaties, as well as special terms under the ITAR. Other foreign international partnerships, defense agreements and bilateral agreements may remove barriers and create advantageous conditions for U.S. exporters. Exporters can check various websites to see whether a transaction is treaty eligible and will want to familiarize themselves with which countries have agreements in place to best understand what exemptions or exceptions may apply to their export. A list of these resources can be found at the end of this report.<sup>5</sup>

### Challenges and Barriers

Despite some challenges U.S. defense companies have faced in a declining U.S. military budget environment, many defense companies have done extremely well overall. Several companies are beginning to shift more resources toward international opportunities by increasing partnerships and joint ventures, rather than relying on in-house efforts, and by targeting growth countries with projected wealth and military budgets.

A challenge for exporting companies is learning to successfully navigate the export licensing process. Regardless of target market country, U.S. companies should conduct regular due diligence on export controls and regulations applicable to their specific product and end user. Companies need to ensure they are familiar with the most current regulatory changes based on Export Control Reform and potential export restrictions, sanctions or embargos that may apply to certain countries of destination.

Ultimately, U.S. exporters must comply with U.S. export control requirements, which include, among other things, licensing requirements. License applications are carefully reviewed by the appropriate U.S. Government agencies to ensure that the proposed export of an item (commodity, software or technology) or service is consistent with U.S. laws, regulations, and foreign policy and national security considerations.

Defense purchases by foreign governments are completed via the government-to-government foreign military sales (FMS) system, by direct commercial sales (DCS) or a hybrid of the two systems. This dictates that companies need to understand these acquisition options which are unique to defense trade. More information on these programs can be found [on the DSCA website](#).

Offsets have become an increasingly important and costly part of international armaments competitions. Offsets are requirements from foreign governments to add back to their economies (e.g. make an investment, form a joint venture, commit to local content sourcing) as a condition for a sale. The U.S. Government, as a policy, does not encourage or assist companies to commit to or enter into offset agreements, even though offsets requirements remain prevalent in the aerospace and defense industries. For further information on factors that need to be considered please refer to *The Defense Export Handbook*. This report can be found on <http://trade.gov/td/otm/aero.asp>.

### Global Industry Landscape

Although foreign competition has grown, the United States continues to dominate the international defense market overall, with seven of the 10 top defense companies (based on 2014 defense revenues)<sup>6</sup> headquartered in the United States. In addition, three other U.S. companies are ranked in the top 20. These top U.S. companies play a critical role to the thousands of small and medium firms that depend on them for work.

**Figure 1: Top 10 U.S. Defense Companies for 2015**

Rank	Company
1	Lockheed Martin
2	Boeing
4	Raytheon
5	General Dynamics
6	Northrop Grumman
8	United Technologies
10	L-3 Communications
13	Huntington Ingalls
16	Honeywell
17	Textron

**Figure 2: Snapshot of Top Global Military Spenders**

World Military Expenditure				
Rank		Country	2015	2006-15
2015	2014		(\$b.)	(%)
1	1	USA	596	-3.9
2	2	China	[215]	[132]
3	4	Saudi Arabia	87.2	97
4	3	Russia	66.4	91
5	6	UK	55.5	-7.2
6	7	India	51.3	43
7	5	France	50.9	-5.9
8	9	Japan	40.9	-0.5
9	8	Germany	39.4	2.8
10	10	South Korea	36.4	37
11	11	Brazil	24.6	38
12	12	Italy	23.8	-30
13	13	Australia	23.6	32
14	14	UAE	[22.8]	[136]
15	15	Israel	16.1	15
<b>Top 15 total</b>			<b>1350</b>	
<b>World total</b>			<b>1676</b>	<b>19%</b>

Note: [ ] = SIPRI estimate; figures are in U.S. \$, at current prices and exchange rates; China and UAE include figures for 2014; Source: SIPRI fact sheet

Figure 2 includes total military spending by each country on total defense purchases, regardless of country of origin. "Military expenditure" is often used as a key indicator of economic resources dedicated to military objectives because it includes actual dollars spent to support military activities. The increase in overall global defense spending in 2015 can be attributed to modernization plans for militaries from countries like Russia and China, new demand—primarily for military aircraft—from emerging markets (Brazil), and a response to regional tensions in the Middle East and Asia Pacific (UAE, Saudi Arabia, South Korea).

The top 15 countries on the World Military Expenditures chart remained essentially the same in 2015 as compared to 2014's ranking. While Saudi Arabia rose one notch among military spenders, the impact of plummeting oil prices since 2014 may shift Saudi Arabia's future military budget for 2016 and beyond. Due to ongoing and heightened conflict in the Middle East with the Yemen crisis, as well as conflicts in Iraq and Syria, however, foreign policy priorities will be important deciding factors in both political and military spending choices. New acquisitions from the Middle East for 2016 have already been published, based on Defense Security Cooperation Agency (DSCA) reporting and other

sources. Saudi Arabia is now seeking ways to diversify its economy in order to reduce its reliance on oil revenues.

U.S.-manufactured defense articles cannot be sold to countries such as China, Russia and other sanctioned entities. Companies should refer to [section 126.1 of the International Trade in Arms Regulations \(ITAR\)](#) to determine which countries are sanctioned, embargoed or have export restrictions.

Europe's three largest spenders on military goods--France, the United Kingdom and Germany--have retained their positions in the top 10 for two years, even though their spending has remained flat over the past decade. Japan and the Republic of Korea consistently uphold strong spending patterns. Due to multiple regional and global threats, global defense spending is expected to continue to rise. In fact, several countries have already announced 2016 defense budget increases in Asia (i.e., Australia, Japan, the Republic of Korea, Taiwan, Singapore, the Philippines, Indonesia and Vietnam), Western Europe (primarily the UK and Belgium, as well as the Netherlands, Sweden, Norway and Finland), Eastern Europe (i.e., Poland, Hungary, Romania, Czech Republic and Estonia) and Turkey. Middle East forecasts remain uncertain due to the need to balance investments in defense with reduced oil prices and overall budgets.

In addition to spending in individual European countries, cumulative NATO member state spending is expected to increase for the first time since 2010 due to activity in the Mediterranean, ISIL activity and overall regional tensions in Eastern Europe. Germany and Italy are expected to release more detailed defense plans later in 2016. U.S. defense exporters can use these upcoming reports to identify opportunities in these markets.

### Top Export Markets

It is no surprise that when comparing the U.S. Census Bureau's data on total military exports from the United States, many of the top global military spenders are also the top importers of U.S. defense items (excluding sanctioned countries). Figure 3 shows the top 15 destinations for U.S. Military Goods (based on 2015 data plus historical data points to reflect long-term trends). This chart highlights which countries

import the largest amount of U.S. defense products by dollar value.

**Figure 3: Top Destinations for U.S. Defense Exporters**

Rank 2015	Rank 2014	Partner	2015 % of Total U.S. Mil Exports	2015 5-yr CAGR
1	1	Saudi Arabia	11.4%	41.0%
2	2	Taiwan	9.8%	55.0%
3	7	Australia	8.8%	24.3%
4	6	UK	6.7%	4.9%
5	11	UAE	6.3%	20.6%
6	5	Japan	6.2%	2.4%
7	4	Korea	5.7%	-3.0%
8	10	Mexico	5.4%	21.2%
9	8	Israel	4.5%	11.6%
10	14	Italy	3.0%	20.3%
11	3	India	2.9%	45.5%
12	13	Germany	2.3%	2.8%
13	16	Turkey	2.0%	-17.2%
14	15	Canada	1.7%	-21.9%
15	17	Singapore	1.7%	-8.1%

Source: U.S. Bureau of the Census export data

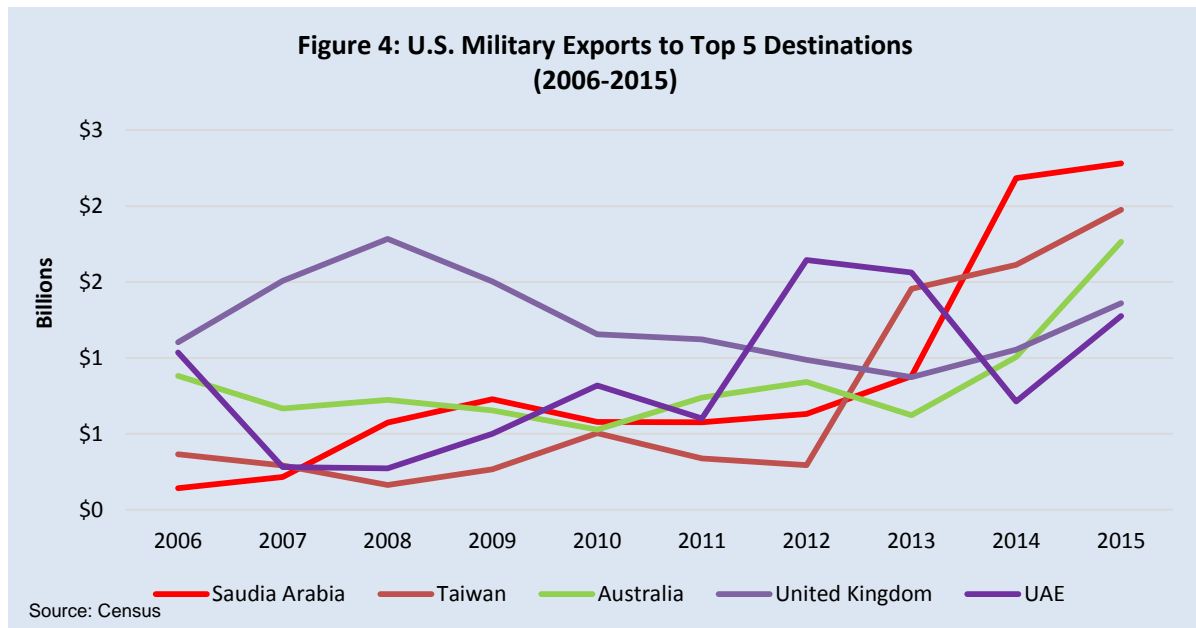
Some additional top importers of U.S. military goods based on 2015 rankings include Egypt (16<sup>th</sup>), France (17<sup>th</sup>), Netherlands (18<sup>th</sup>), Spain (19<sup>th</sup>), Bahrain (20<sup>th</sup>) and Poland (30<sup>th</sup>). Not reflected in this chart are Kuwait ranked 9<sup>th</sup> in 2014 and 21<sup>st</sup> in 2015 and Egypt ranked 12<sup>th</sup> in 2014.

Note regarding Census data

Census-basis export data measure the total physical movement of merchandise out of the U.S. (including items sold via both FMS (foreign military sales) and DCS (direct commercial sales)), and therefore, any contracts that were reduced in scope or canceled are simply not captured. Different factors impact this data relative to defense data from other sources, such as various time-lags due to long-term delivery schedules. For more information on the 50,000 series created by the Bureau of Economic Analysis based on military end-use harmonized tariff codes and for a complete list, see appendix 1.<sup>7</sup>

**Exporter Resources**

For more detailed resource information on how to enter into the following potential export markets, please refer to the Addendum on Resources for U.S. exporters at the end of this report. The Department of Commerce has many services available to assist companies entering new markets. The [Aerospace team, within the Office of Transportation and Machinery](#), is staffed by experts in various sectors. In addition to defense, these sectors include large civil aircraft, space, unmanned aerial systems and helicopters, among others. See the website for research and services that the team provides (<http://trade.gov/td/otm/aero.asp>).



International Trade Specialists throughout Commerce's International Trade Administration have deep and broad knowledge of industry and market sectors and can help companies identify target markets and screen potential distributors or agents. For a list of International Trade Specialists, please visit <http://export.gov/usoffices/index.asp>.

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<sup>1</sup> "SIPRI Fact Sheet," Stockholm International Peace Research Institute, April 2016.

<sup>2</sup> "Annual Industrial Capabilities Report to Congress," October 2013, Department of Defense, p.2

<sup>3</sup> <http://www.finmeccanica.com/en/nostro-impegno-our-commitment/conduzione-business-conduct/>

<sup>4</sup> See the Defense Procurement and Acquisition Policy (DPAP)

website: [www.acq.osd.mil/dpap/cpic/ic/reciprocal\\_procurement\\_memoranda\\_of\\_understanding.html](http://www.acq.osd.mil/dpap/cpic/ic/reciprocal_procurement_memoranda_of_understanding.html)

<sup>5</sup> See Appendix 2 for a list of some of the bilateral or defense agreements the U.S. has with other countries, followed by a list of other resources.

<sup>6</sup> Defense News, "Top 100 for 2015;" 2014 revenues for non-US firms were calculated using average market conversion rates over each firm's fiscal year to mitigate currency fluctuation.

<sup>7</sup> See Appendix 1.