

UK Defence & Security Export Statistics for 2016

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SUMMARY

This statistical release comprises UK defence and security export performance data and analysis. The release principally focuses on 2016 data, but includes historic data for context and trend analysis purposes.

UK defence export information is based upon data provided by several hundred UK companies via DIT DSO's voluntary survey of defence export contracts. Rest of the World data is derived from open source reporting of other countries' defence export contracts.

Security sector data is compiled by Frost & Sullivan and counts sales of security equipment and services.

This is the fourth year that DSO has released defence and security export figures as "Official Statistics". This release has been compiled in conjunction with the DIT Statistics team, whose technical advice and support is acknowledged here.

Our defence statistics relate to sales to overseas Ministries of Defence and associated Armed Services.

Our security figures relate to sales. Security data is provided by a contractor called Frost & Sullivan, under a multi-year contract to DIT DSO. Data is aligned with HMG's seven Security Export Strategy capability areas: Critical National Infrastructure (CNI) Protection; Cyber Security; Policing and Counter-Terrorism (CT); Major Event Security; Border Security; Offender Management, and Services (including Consultancy, Training, Guarding and Risk Analysis).

Separate methodology papers for the defence and security statistics accompany this release on the gov.uk website.

All the information collected on the defence and security markets is vital to our understanding of the shape of the market and trends. It helps DIT DSO target support to the defence and security industry.



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Summary

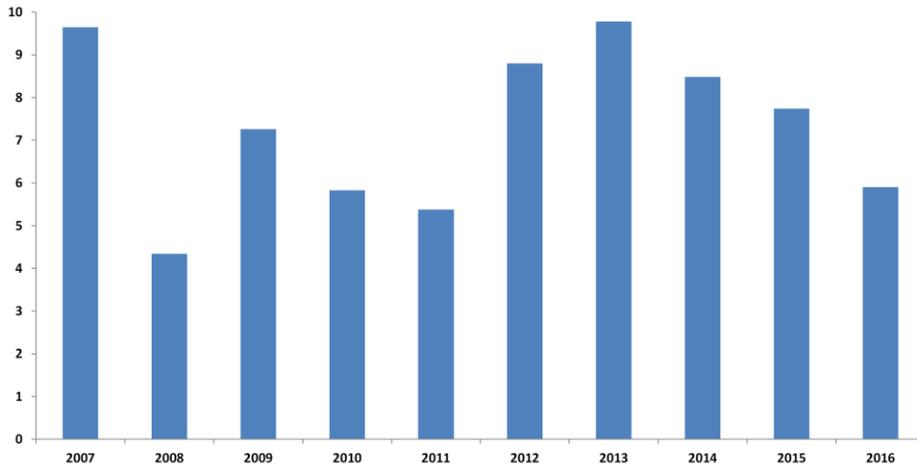
- On a rolling ten year basis, the UK remains the second largest global defence exporter.
- Specifically in 2016, due to the “lumpy” nature of the global export market, the UK won defence orders worth £5.9Bn.
- The UK share of the global defence export market was estimated at 9% in 2016.
- The UK's largest defence export markets were the Middle East, North America and Europe.
- In 2016, the value of UK security export sales was £4.3Bn, moving the UK upwards to 5th place in the rankings.
- The UK's largest security export markets were Europe, Asia-Pacific and the Middle East.

The global defence export market in 2016 is estimated to be valued at more than \$89Bn, the second biggest it has been in the past decade. It is a significant total given the impact of global economic uncertainties post-2014 that included volatility in the oil price and currency devaluations. The increased global defence export market total reflects on-going strategic threats. Despite fiscal constraints, defence expenditure has been heavily augmented by off budget funding in a number of cases, or in some instances projects delayed.

Of the \$89Bn global defence export market, the UK won \$8Bn worth of new business, affording it an estimated market-share of 9%. The UK's performance equates to a 4th-placed ranking globally and is a considerable achievement. It also reinforces comments we have previously made regarding the “lumpy” nature of the defence export business and that a multi-year rolling measure of performance (for example, ten years) is a more reliable metric for evaluating performance than single year figures.

In the global security export market the UK is improved to a ranking of fifth, behind the USA, Japan, China and Germany. The UK brand is very strong around the world and there are plenty of opportunities to pursue in this growing market, particularly the continued exploitation of UK industry expertise in Cyber, Border Security and CNI.

**Chart 1: UK Defence Exports (Based on Orders):
2007-16 (£Bn)**



Source: DIT DSO

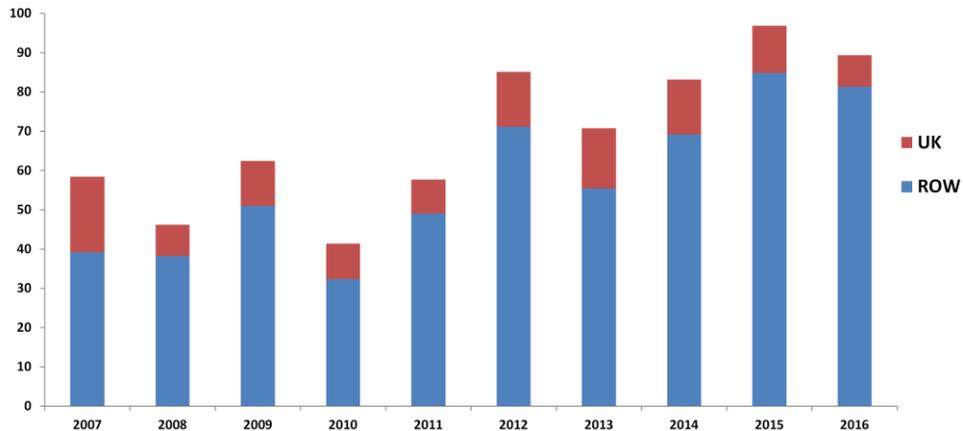
This chart shows annual UK defence export performance globally for the past ten years.

The UK is one of the world's most successful defence exporters, averaging second place in the global rankings on a rolling ten-year basis, making it Europe's leading defence exporter in the period.

There were notable UK successes in the Air domain for 2016 (Eurofighter consortium Typhoon sale to Kuwait) and in the Naval sector (Babcock OPVs to the Republic of Ireland, Rolls Royce MT30 Engines to Italy and James Fisher Defence's significant submarine rescue service contract with the Indian Navy.)

As we reported previously, the UK has won significant defence orders during the past decade, including Oman (OPVs, Hawk & Typhoon aircraft), Saudi Arabia and India (Hawk aircraft), Norway and South Korea (helicopters), France (Trent 700 engines), Brazil (OPVs), USA (bridging) and Estonia (minehunters).

Chart 2: Estimated Global Defence Exports (Based on Orders/Contracts Signed): World Market \$Bn at Actual Prices



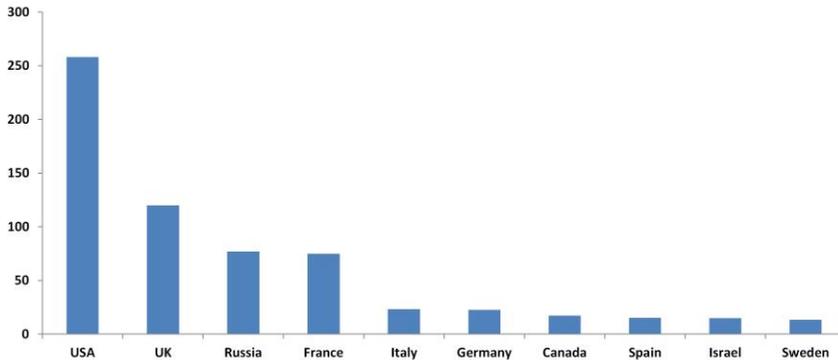
Source: DIT DSO

Year-on-year, the global defence export market experiences peaks and troughs in response to fluctuations in defence spending levels, threat perception and national requirements.

The global defence export market in 2016 is estimated to be worth more than \$89Bn, down on the 2015 estimated total of \$97Bn, but still the second biggest in the past decade.

Selected major global defence export deals in 2016 included: the Eurofighter consortium's sale of Typhoon Aircraft to Kuwait, France's long awaited export of Rafale Aircraft to India and Italy's export of various Vessels and Missiles to the Qatari Navy.

Chart 3: Estimated Top Ten Defence Exporters (Based on Orders/Contracts Signed): 2007-16 (\$Bn)



Source: DIT DSO

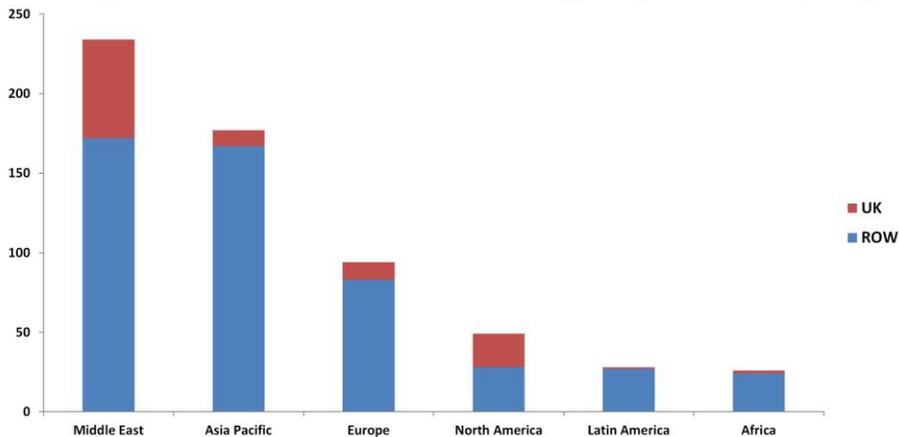
This chart shows that for the most recent ten-year period (including 2016 performance), the UK successfully retained its position as the second largest defence exporter globally. The UK is also Europe's leading defence exporter ahead of Russia and France. The USA remains the world's pre-eminent defence exporter, having secured more than double the exports (by value) of the second-placed UK.

The most significant change to note in the global rankings since the publication of last year's chart is Italy moving up from 8th to 5th place, displacing Germany from a Top Five position, this reflected a very strong year for the Italian defence industry, specifically in the Naval sector.

Third-placed Russia in the ten-year rankings enjoyed a successful 2016, buoyed by significant transactions with India: separate contracts were signed for Admiral Grigorovich-class frigates, T-90 MBTs and Submarine-leasing.

France performed strongly in 2016, helping it close the gap on Russia in the ten-year period. France's Rafale combat aircraft sale to the Indian Air Force (\$8.6Bn) in January 2016 was a major boost to French industry, specifically Dassault, Snecma Military Engines and Thales Optronique SAS.

**Chart 4: Estimated Defence Import Procurement By Region
(Based on Orders/Contracts Signed): 2007-16 (\$Bn)**



Source: DIT DSO

As can be seen from this 2007-16 regional importers chart, the Middle East is the largest regional importer of defence equipment & services, the same as reported last year. Saudi Arabia, Qatar and UAE are major national importers. The UK, USA and France are the major suppliers to the region.

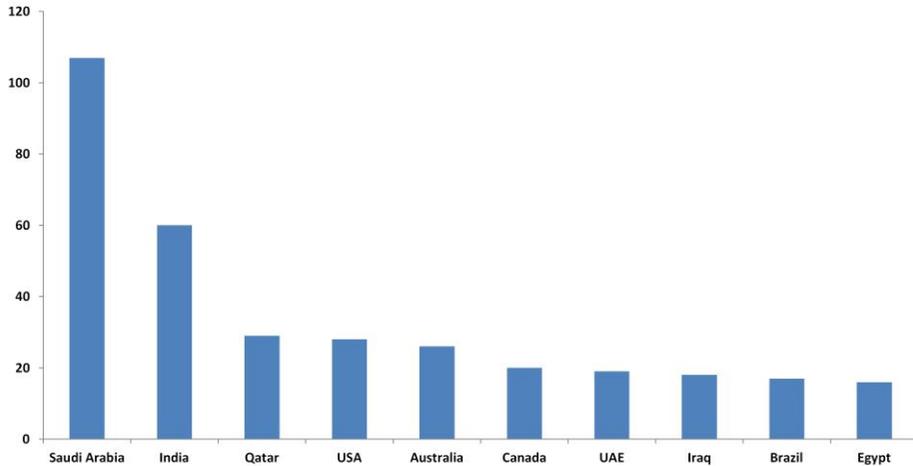
The Asia-Pacific region has seen increased defence import activity in recent years, particularly in the aerospace and naval sectors. The UK has won major defence business in the region, including in 2013 when AgustaWestland won a AW159 helicopter contract with South Korea.

Europe is the third biggest regional importer, with the USA and local industries strong.

North American import expenditure would be higher if both the USA and Canada had small defence industries but instead they are big, efficient and sophisticated. The UK is Europe's most successful nation in penetrating the U.S. market.



**Chart 5: Estimated Top Ten Defence Importer Nations
(Based on Orders/Contracts Signed): 2007-16 (\$Bn)**



Source: DIT DSO

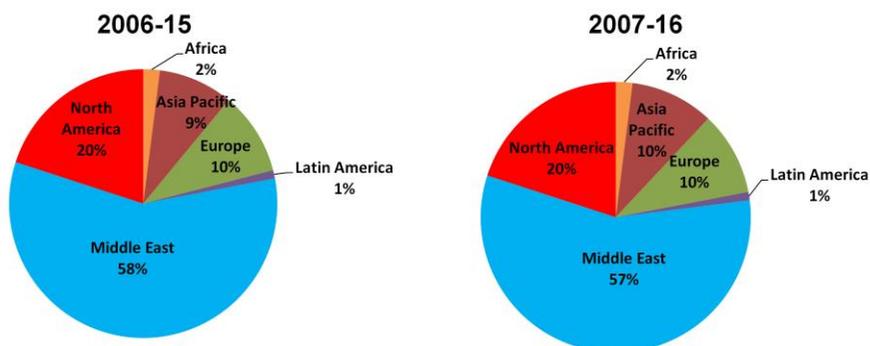
This chart shows the estimated Top Ten defence importers globally for 2007-16.

The UK is not shown on the chart, as it was the 11th biggest defence importer in the period. The UK was the tenth biggest defence importer in the 2006-15 period and ranked eighth for 2005-14.

The Middle East dominated global defence imports in the 2007-16 period, with Saudi Arabia the world's biggest defence importer, the same position it held in the 2006-15 period. Qatar, which entered the Top Ten for the first time in 2015 (ranked 6th), is now ranked 3rd, with significant imports from the USA, Germany, Switzerland and France. The UAE was ranked seventh. Iraq was ranked 8th, up one place. Egypt entered the top ten in tenth spot, largely based on 2016 imports, which included significant equipment from Russia and France.

Australia, 4th in the rankings last time has slipped to fifth. North America continues to rank in the Top Ten, with the USA fourth and Canada sixth. Latin America's sole entry is Brazil, ranked 9th.

Chart 6: Estimated Total UK Defence Exports (Based on Orders/Contracts Signed) by Region – Comparative Assessment 2006-15 & 2007-16



Source: DIT DSO

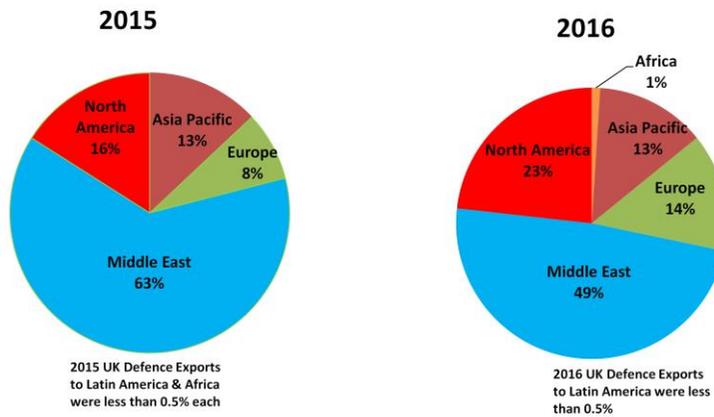
This UK defence exports chart by region shows a comparison between 2006-15 and the latest 2007-16 figures.

The Middle East dominates in both, reflecting the continued importance of the market to the UK (and competitors), and the high levels of defence expenditure made by the region. Despite oil price volatility, most countries in the region were able to sustain defence expenditure levels by using off budget funding.

North America was the second most opportune region for UK defence exporters, accounting for almost one fifth of total UK defence exports by customer destination.

Europe and the Asia-Pacific were the next most important regional markets for the UK in this period.

Chart 7: Estimated Total UK Defence Exports (Based on Orders/Contracts Signed) by Region 2015 & 2016



Source: DIT DSO

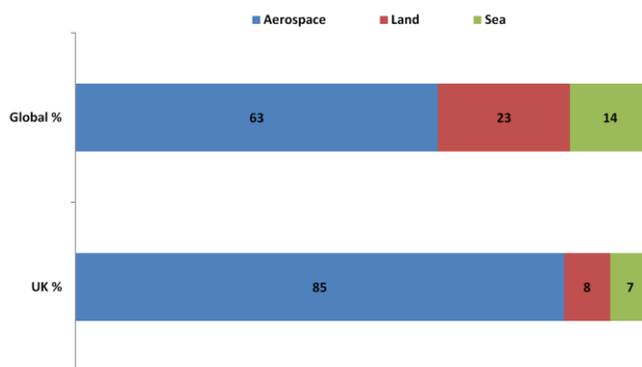
This chart depicts the regional breakdown of UK defence exports in 2016, with 2015 provided for comparative purposes.

As can clearly be seen, UK defence exports were greatest by value in the Middle East region, which accounted for just under half the total of UK defence exports in 2016.

We reported last year that UK defence exports to North America in 2015 were up several percent on the 2014 level; in 2016, UK companies continued that trend, with the region now accounting for 23% of total UK defence exports, the second most important region by value to the UK.

UK defence exports to Europe in 2016 accounted for 14% of total defence exports (up from 8% in 2015) and the Asia-Pacific region remained at 13%. UK defence exports to Africa, previously 0.5%, were up to 1%.

Chart 8: UK and Global Defence Export Market (Based on Orders/Contracts Signed) by Sector 2007-16



Source: DIT DSO

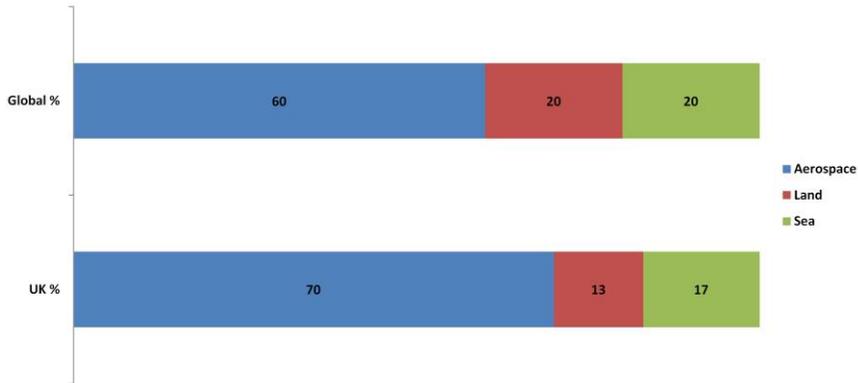
This chart depicts Global and UK defence export performance by sector across the 2007-16 period based on orders/contracts signed.

As is evident from the top bar (the Global position), the Aerospace sector by value accounted for 63% of all defence exports. This is unsurprising given the fact that high value combat aircraft, transport aircraft, trainer aircraft and attack and transport helicopters reside in this domain.

The lower bar on the chart provides specific detail on the UK. The UK is dependent (around 85%) on its aerospace sector, including platforms, equipment and support. As a leader in air sector technology and capability, it is exploiting its expertise. This strength is vital to securing the high value export opportunities in growth markets where securing air superiority is, and will remain a key priority for nearly all nations. UK Land exports overtook Sea exports in the period. There is head-room in these sectors that the UK should seek to exploit, particularly given the innovative and technological solutions developed by UK companies, and potential market potential that competitors have exploited.

It is worth noting that the competitor portfolios of major competitors to the UK, such as the USA and France, appear slightly less unbalanced than the UK's, and therefore these supplier nations are less exposed to sector fluctuation, whereas the UK is.

Chart 9: UK and Global Defence Export Market (Based on Orders/Contracts Signed) by Sector 2016



Source: DIT DSO

This chart depicts Global and UK defence export performance by sector in 2016.

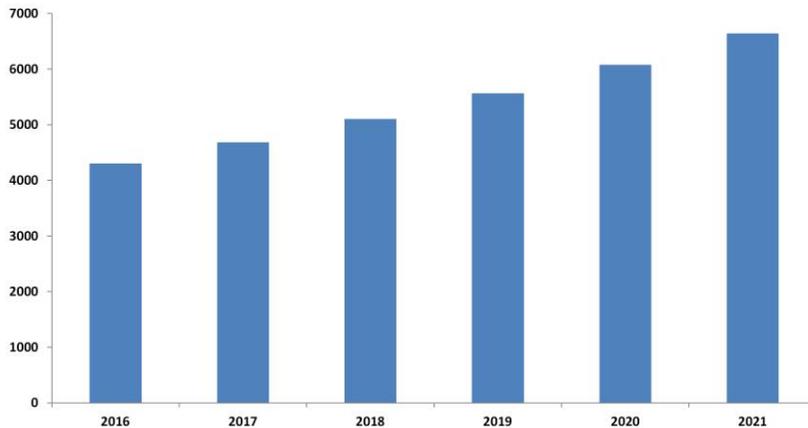
As is evident from the top bar, the Aerospace sector by value in 2016 accounted for approximately 60% of all defence exports globally; it was 64% in 2015.

The lower bar highlights the continuing significance of Aerospace to the UK, still the biggest sector by value, equating to 70% of total UK defence exports. This included the export of Eurofighter/Typhoon to Kuwait. However, there is a significant change from the previous year's figures. Users of our data will recall that for 2015, UK defence exports in the Aerospace sector represented 88%. The 2016 figure of 70% (a decrease of 18 percent) is a major reduction and further evidence that the UK is reducing its exposure to the Aerospace sector, enhancing its performance in other sectors and slowly re-balancing the portfolio.

Major export Sea Sector successes for the UK defence industry in 2016 included the Republic of Ireland ordering another Offshore Patrol Vessel from Babcock, the MT30 order from the Italian Navy and James Fisher Defence's submarine rescue service contract with the Indian Navy.

In the Land Sector, WFEL enjoyed continued success with Military Bridging exports to Australia and USA worth \$53M and \$30M respectively.

Chart 10: UK Security Exports 2016 (Actual) and Forecast up to 2021 (£M)



Source: Frost & Sullivan

Information on UK security exports is provided by Frost & Sullivan under a two-year contract to supply DSO with 2016 and 2017 calendar year data. The company's methodology is provided in a separate document published on the gov.uk website.

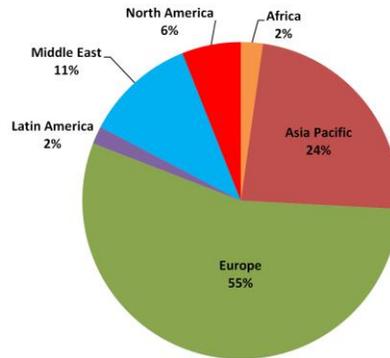
According to Frost & Sullivan, UK security companies reported another strong set of export results. The 2016 total for UK security exports was £4.29Bn. More than £2Bn of that figure was derived from Companies House data, annual reports, or reported directly by the companies themselves, with the rest of the total calculated as per their methodology. The forecast for security industry exports is strong year-on-year out to 2021.

As this is the first year of the Frost & Sullivan export figures, we cannot formally compare with previous year's for trend analysis purposes; this is because the historical export data was generated by another contractor using a different methodology and taxonomy. However, we recognise that users of our data, for comparative purposes, may wish to know the 2015 position. The kMatrix figure for UK security exports in 2015 was £4Bn.

The UK's continued success in the global security market is not a surprise since the UK has an established security industrial base producing best in class solutions, which are highly regarded around the world. The security market is fragmented with a variety of companies across the technology segments with large defence and security players and ICT players actively engaged. A large part of the market is made up of SMEs providing products and services across the technology segments and creating a big proportion of the revenue. There is evidence to suggest that the USA and firms from other countries are using the UK as a headquarters for access to the EU market.



**Chart 11: UK Security Export Destinations (By Region)
(Based on Sales) 2016**



Source: Frost & Sullivan

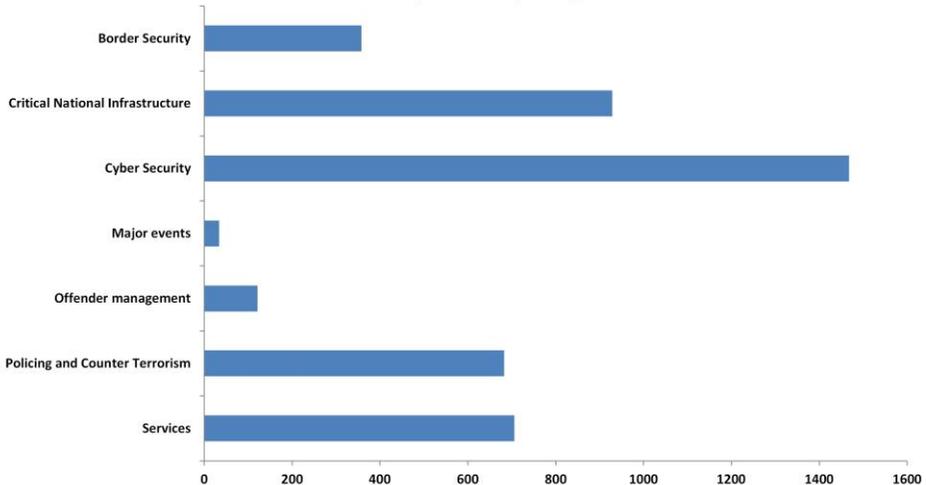
This chart illustrates the Top Ten regional export destinations for the UK Security Industry.

Unlike Defence, where the Middle East is the biggest regional export destination for the UK, in Security it is Europe that accounted for the biggest value (representing 55%).

The Asia-Pacific region was the second biggest destination for UK security equipment, accounting for almost one fifth of total UK security exports in the period.



Chart 12: UK Security Exports by Capability Area (Based on Sales) 2016 (£M)



Source: Frost & Sullivan

This chart shows UK security exports for 2016 (based on sales) segmented by HMG Security Export Growth Strategy capability area.

The Frost & Sullivan data shows Cyber Security to be the largest single security export category in 2016 at 34%, which was also the position in 2015 even though the figures were accounted for differently. The UK cyber security exports figure for 2016 is a considerable achievement, £1.5Bn, given the competitiveness of the market, but not a surprise given the rise in cyber threats and UK pedigree (more than 70 years' experience and history of innovation). It is important to recognise that the figure was generated using a different methodology and taxonomy/segmentation to the previous supplier whose data covered the 2013-2015 period. It cannot therefore be directly compared with previous year's figures without an appreciation of the accompanying methodology papers that are available on the gov.uk website. This sector is expected to provide the strongest export market growth (12%).

The Services sector accounted for 16% of total UK security exports and has a solid base. Critical National Infrastructure (21%) and Policing & Counter-Terrorism (16%) are major export sub-sectors; these are expected to be successful markets for UK exporters going forward, exploiting world class capabilities and solutions, with a growth forecast of more than 8%. Border Security will be a priority for nations. Investment in data systems and better border control is expected during the next five years.

Chart 13: Global Security Export Overview 2016

- Frost & Sullivan assessment for 2016 confirms that the USA, Japan and China were once again the major security exporters, pursued by European nations that included Germany, UK, Sweden and France.
- The UK continues to improve its global security export ranking, now estimated at 5th.
- India did not make the Frost & Sullivan Top Ten, but remained active globally and regionally, but tended to secure multiple lower value contracts; in other words, it had volume rather than value.
- Selected 2016 French security export contracts (for Thales, Safran and Morpho Detection) covered CNI, Cyber, Services, Policing & Counter Terrorism, in markets that included India, South Korea, UAE and USA. In 2016, major German contracts included Safe Cities (China) and CNI (Brazil).
- Other major competitors were Israel, Canada, Spain and South Korea.

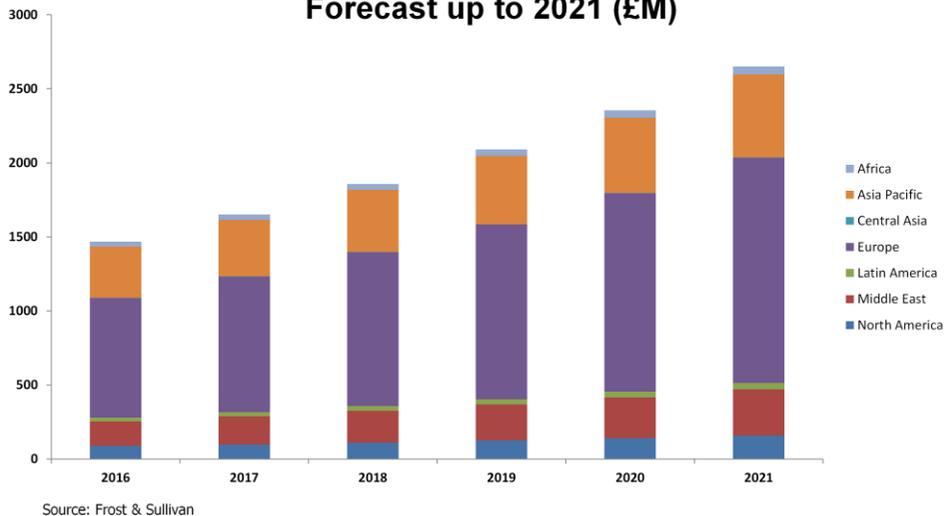
Source: Frost & Sullivan

Frost & Sullivan analysed a list of the top security companies globally together with their associated security division revenue, identifying export contracts in the public domain, published by these companies.

The USA is the world's biggest security exporter in 2016. Its CNI successes included two major wins in India: Infinova cameras for 62 airports, and the Mumbai City Surveillance project with Larsen & Toubro (L&T). US-headquartered companies have an export revenue in the range of 28%-39%. In general, companies headquartered outside of the USA had an export revenue in the range of 50%-70%. Israeli security companies derived 90% of their revenue from exports, and are particularly strong in Cyber and Offender Management in 2016 exports.

A selected few countries that were not identified as being part of the Top Ten, but still significant were Taiwan, India, Netherlands, Denmark and Russia. Although Russia is strong in defence, it has still not translated that success into the security domain, but is improving its solutions year-on-year. Taiwan won a surveillance contract in Mexico in support of CNI protection.

Chart 14: UK Cyber Security Exports 2016 (Actual) and Forecast up to 2021 (£M)



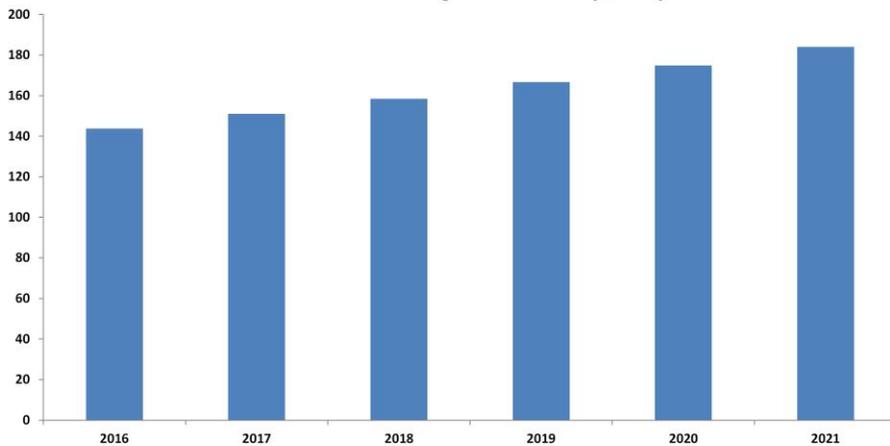
This regional destinations chart shows UK 2016 cyber security export data alongside the Frost & Sullivan forecast to 2021.

As can be seen, the cyber security sector will experience significant growth maintaining an upwards trajectory.

Europe and the Asia-Pacific regions are likely to remain the largest importers of cyber security solutions from the UK. China and India both invest heavily in security technology across cities and CNI, so are likely to present opportunities for suppliers, including from the UK.

Whilst UK brands are strong in the USA, these are usually US registered companies with operations in country and so do not count as export sales.

Chart 15: Global Security Expenditure 2016 (Actual) and Forecast up to 2021 (\$Bn)



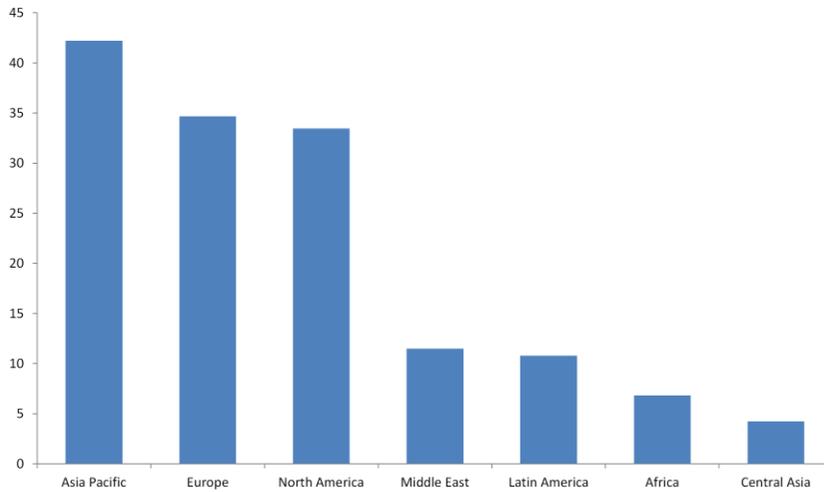
Source: Frost & Sullivan

According to Frost & Sullivan, the global security market is forecast to continue to grow at just over 5% annually. Cyber security will grow quicker (12%) than the rest of the security market. The global cyber security market can be segmented by various industry verticals, out of which the adoption of security solutions is expected to be the highest in the aerospace and defence vertical as the critical data and applications used by the vertical are prone to advanced threats. Emergency services investment will perform well due to upgrade cycles and new technology. CNI will be driven by new installations and upgrades, whilst growth in offender management will grow slower than the other segments.

Global security expenditure is forecast using Frost & Sullivan forecast methodologies across a range of security segments. Each of these are tailored to take into account the end user organisations and capture the specific market dynamics. The global forecast includes CNI, Border Security, Major Events, Policing & Counter Terrorism, Cyber Security and Offender Management. It does not include Services revenue.



Chart 16: Global Security Expenditure (By Region) 2016 (\$Bn)



Source: Frost & Sullivan

This chart, based on Frost & Sullivan data, depicts global security expenditure by region in 2016. As can clearly be seen, the Asia-Pacific region is the largest, with the key drivers in the region being China and India, who invest heavily in security technology across cities and CNI.

North America is the second largest region by value. The United States continues to be the largest security market with large investment plans over the next five years, including border security and First Net (First Responder Network Authority).

Middle East expenditure remains high considering the size of region based on the continued threats and instability the area faces; Border Security will continue to experience increased investment.

NB. Frost & Sullivan security market size is forecast through a bottom up approach for each country which total up into an overall regional market size. This includes 192 countries across 7 regions.



Notes

This DSO statistical release contains UK defence and security export performance data and analysis. UK defence figures are derived from a survey of UK defence companies to capture new orders data. Rest of the World figures are derived from open source reporting and capture competitor contracts signed. Security export data is based on sales. It is not advisable to combine the defence and security export figures as they are recorded via a different methodology and report on a different metric (orders/contracts vs sales).

Where '\$' values are expressed for Rest of the World activity or Global totals, these are presented in U.S. dollars for consistency. Figures quoted are actual prices, not adjusted for inflation.

All figures are subject to revisions due to definitional and methodological changes that will be notified to users via the gov.uk website.

Regular users of our data will be aware that kMatrix provided security export data to DSO under a multi-year contract that expired last year. We thank kMatrix for their support to our organisation. As a result of a new tender placed by UKSBS/DIT Commercial, Frost & Sullivan was awarded a two-year contract to supply security export data to DSO covering the 2016 and 2017 calendar years.