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The Defence Industry In Scotland

A report for GMB Scotland by the Fraser of Allander Institute
July 2016

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Summary

- An estimated 13,840 people are currently employed at Ministry of Defence (MOD) installations in Scotland
- We estimate that MOD employees support a total of 20,687 jobs and £473.4 million worth of wage payments across Scotland
- The Aerospace, Defence, Marine and Security (ADMS) sector is estimated to directly employ a total 38,400 people in Scotland
- The two BAE yards at Govan and Scotstoun directly employ a total of 2,723 people in Glasgow
- Over 1,000 BAE employees are skilled tradesmen or are undergoing apprenticeships
- We estimate that the two yards in Glasgow support a total of 5,943 jobs and £162.7 million worth of wages across Scotland as a whole
- The shipbuilding sector in Fife is estimated to support a total of 3,870 jobs and £105.9 million worth of wage payments across Scotland

Introduction

GMB Scotland (GMB) has asked the Fraser of Allander Institute (FAI) at the University of Strathclyde to assess the economic impact of the defence sector on the Scottish economy. The first section of this report examines aspects of the military in Scotland, including an assessment of its economic impact. The next section discusses data on supplier companies and looks in detail at one important part of this, the shipbuilding sector in Scotland.

Employment

i) Ministry of Defence employment

Table 1 below details recent figures on Ministry of Defence (MOD) employment, and shows that the MOD currently employs 10,110 service men and women in Scotland, and 3,730 civilian employees, a total of 13,840.

		2012	2013	2014	2015	2016
	Officers	1,407	2,014	2,015	1,213	1,290
	Other Ranks	9,653	9,668	9,120	8,350	8,820
	<i>All Military</i>	<i>11,060</i>	<i>11,682</i>	<i>11,135</i>	<i>9,563</i>	<i>10,110</i>
	<i>Civilian</i>	<i>4,380</i>	<i>3,948</i>	<i>3,830</i>	<i>3,765</i>	<i>3,730</i>
	<i>All Jobs</i>	<i>15,440</i>	<i>15,629</i>	<i>14,965</i>	<i>13,328</i>	<i>13,840</i>

Source: DASA

However, the number of jobs in the services in Scotland has fallen over the period shown by a total of 1,600 jobs. In proportionate terms, the largest reduction occurred in civilian employment, which fell by almost 15% (14.8%, a total reduction of 650) while the much larger military component fell by 8.6% (950 jobs, including 117 officers and 833 in other ranks). Overall employment (military and civilian) was 10.4% lower in 2016 compared to 2012.

These more recent figures shown in Table 1 appear to indicate a long-term trend of falling MOD employment in Scotland - analysis from 2008, for example, show that there were 12,400 military jobs in Scotland¹, around 23% higher than the 2016 figure (10,110) shown in Table 1. Civilian employment has also been considerably reduced - the MOD employed 6,500 civilians in Scotland in 2008 compared to 3,730 in 2016.

¹ See "The Defence industry in Scotland", Fraser of Allander Institute Economic Commentary, Vol 33 No 2, November 2009.

While MOD military employment in Scotland has recently fallen, UK employment has actually fallen further since 2012. Scotland has therefore accounted for a larger share of all UK jobs in recent years, albeit by relatively minor amounts (see Chart 1 below).

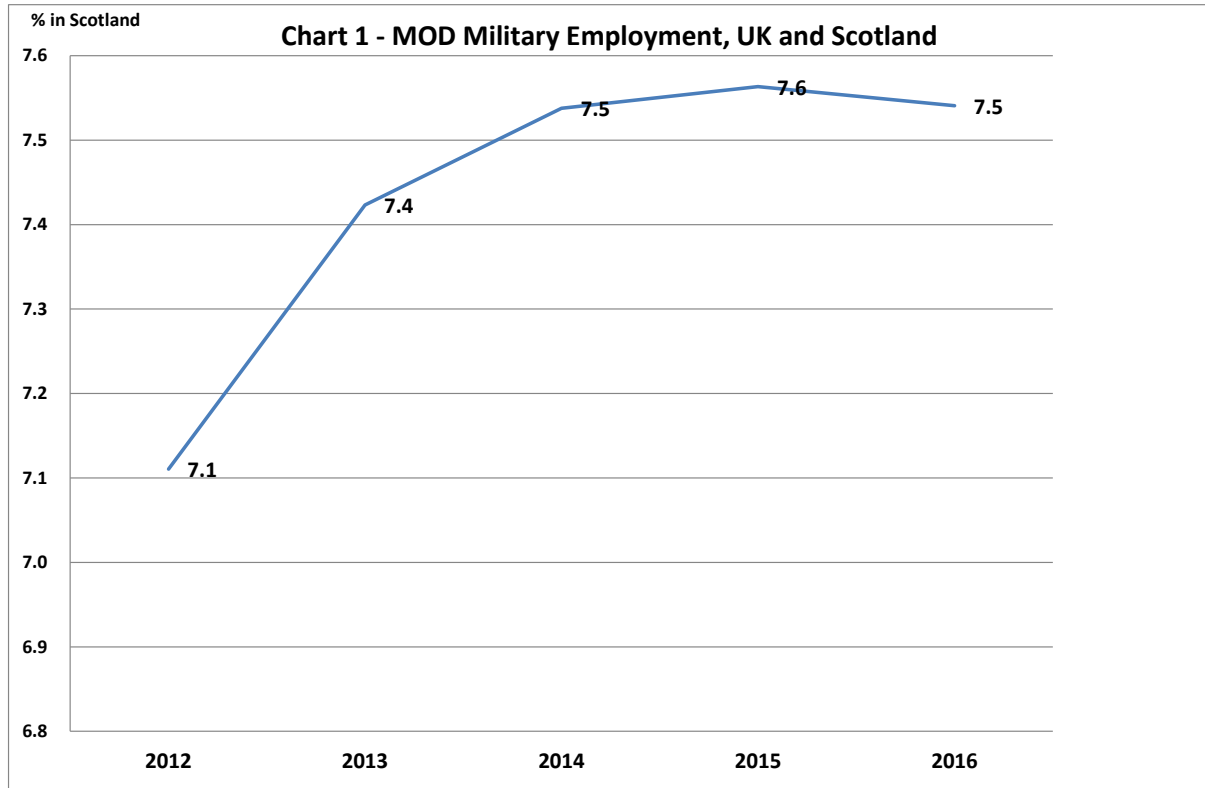
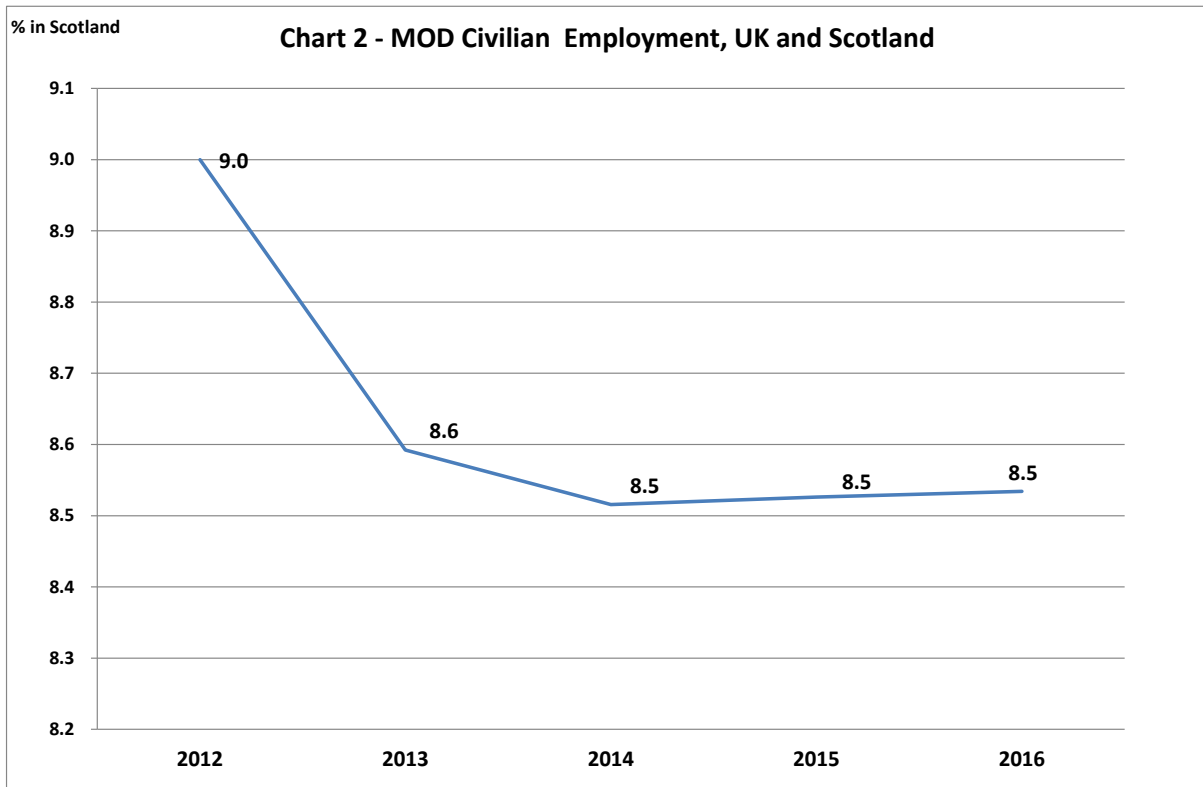


Chart 2 depicts the situation regarding MOD civilian jobs. We noted above that the number of civilian employment in Scotland has fallen considerably since 2012 and the chart shows that Scotland has suffered proportionately more than the UK as a whole, although the proportionate difference is again relatively minor.



Employment by location

Table 2 below details the location of all MOD military and civilian jobs by local authority area in Scotland². More than half of Local Authorities (LAs) have no military presence and there are minor numbers in other areas, but the table shows that employment is concentrated in eight LAs (Angus, Argyll & Bute, Edinburgh, Fife, Glasgow, Highland, Midlothian and Moray³). These areas together account for 94 % of all jobs. Over a third (34%) of all jobs are in Argyll & Bute.

² This excludes a small number of employees whose location is classified as “unallocated”.

³ These areas are shown in bold type in Table 2.

	Number	% of all jobs
Aberdeen City	60	0.4
Aberdeenshire	50	0.4
Angus	735	5.3
Argyll & Bute	4,700	34.0
Clackmannanshire	-	-
Dumfries & Galloway	10	0.1
Dundee City	40	0.3
East Ayrshire	-	-
East Dunbartonshire	-	-
East Lothian	-	-
East Renfrewshire	-	-
Edinburgh - City of	1,090	7.9
Eilean Siar	10	0.1
Falkirk	-	-
Fife	1,180	8.5
Glasgow City	1,350	9.8
Highland	630	4.6
Inverclyde	-	-
Midlothian	550	4.0
Moray	2,790	20.2
North Ayrshire	235	1.7
North Lanarkshire	-	-
Orkney Islands	-	-
Perth & Kinross	30	0.2
Renfrewshire	-	-
Scottish Borders	-	-
Shetland Islands	-	-
South Ayrshire	50	0.4
South Lanarkshire	-	-
Stirling	230	1.7
West Dunbartonshire	100	0.7
West Lothian	-	-

One consequence of this concentration of jobs is that a number of smaller areas have a high dependence on the military. Table 3 below details the proportion of MOD employees in the eight main areas in relation to all employees in these areas. While the larger areas such as Glasgow and Edinburgh have a relatively low dependence on the military, this is evidently not the case with regard to the smaller areas which also have a high number of MOD jobs -the MOD provide approximately 1 in every 8 jobs in Moray, rising to 1 in every 13 jobs in Argyll & Bute.

Table 3 - Percent of military jobs, selected	
Local Authorities (2015)	
Angus	2.2
Argyll & Bute	13.0
Edinburgh	0.3
Fife	0.9
Glasgow	0.3
Highland	0.6
Midlothian	2.0
Moray	8.1

Military Employment - Economic Impact

We next consider the total number of jobs and the total amount of wages supported by the military in Scotland. The total economic activity created can be measured at two levels. Firstly, the ongoing operations at military installations will create economic activity in Scotland. This is termed the initial, or direct, effect, and comprises the employment and wages paid to employees.

However, as part of these ongoing operations, the MOD will pay wages to local residents. It will also purchase goods and services, some proportion of which will be spent on companies located in Scotland. Two further additional economic effects result from these wage and supplier expenditures, in both cases because the recipients of this initial expenditure subsequently re-spend some of the monies received from the MOD. The first, known as the induced impact, occurs because employees will spend wages and salaries on goods and services produced or distributed within Scotland. The second effect, known as the indirect impact, results because suppliers to the MOD will themselves make expenditures on staff and other goods and services produced or distributed within Scotland.

However, information on supplier spending by the MOD in Scotland is not available and would not be without a survey of military installations that specifically requested this. For this reason, we report only the impact of wage spending (i.e., the induced effect that results from MOD employees spending wages in Scotland⁴). It should therefore be noted that the results shown in Table 5 below do not therefore represent the total military impact because they do not include an estimate of the employment and wages created in Scotland supported through military spending at suppliers in Scotland.

⁴ This is known as a Type 1 multiplier.

Table 4 shows that wage spending by the 13,480 military employees is estimated to support a total of 20,687 jobs across Scotland - every 1 military job therefore supports a further 0.49 jobs elsewhere in the Scottish economy.

Table 4 - Estimated Military Impact (Scotland)	
Initial Employment	13,840
Total Employment Supported	20,687
Initial Wages (£million)	373.4
Total Wages Supported (£million)	473.4

The numbers employed have been taken directly from MOD sources.⁵ The total amount of wages paid directly to MOD employees in Scotland has also been estimated from official data on wage payments. The MOD publishes salary figures by rank⁶, and we have assumed that all serving personnel at officer level receive the average annual salary for this level and that non-officers are paid at private level. Non-serving employees have been assumed to receive the average Scottish pay. Under these assumptions, the initial level of total pay is estimated at to £373 Million (M), which is estimated to support a total of £473 M worth of wages across Scotland as a whole - every £1 paid in wages to employees at military installations supports a further £0.27 worth of wages elsewhere in Scotland. The 13,840 MOD employees are estimated to support a total of 20.687 jobs across Scotland

Supplier Companies

Employment at military installations is one aspect of the impact of the defence industry on Scotland, which also includes the activity created by companies supplying goods and services to the military. A survey conducted jointly by Scottish Enterprise and the industry body Aerospace, Defence, Marine and Security (ADMS)⁷ indicates the overall size of this industry, which it estimates employs 38,400 people in Scotland (Table 5). Shipbuilding is included in the Defence subdivision of the wider ADMS sector, which accounts for 32% of all jobs and 40% of all sales within the wider Scottish ADMS industry.

⁵ Ministry of Defence Quarterly Location Statistics (QLS), available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/452939/QLS_July15_v2.pdf.

⁶ See "UK Defence Statistics Factsheet 2014", Table 18.

⁷ Including the 13,480 military jobs.

	Employment (,000)	Sales (£Billion)
Marine	15.0	1.4
Defence	12.2	2.2
Security	2.1	0.2
R&D	0.64	0.1
Space	0.24	0.0
Aerospace	8.26	1.6
Total	38.4	5.6

Shipbuilding - Scotland

We next examine some data on the significance of the total shipbuilding industry in Scotland.

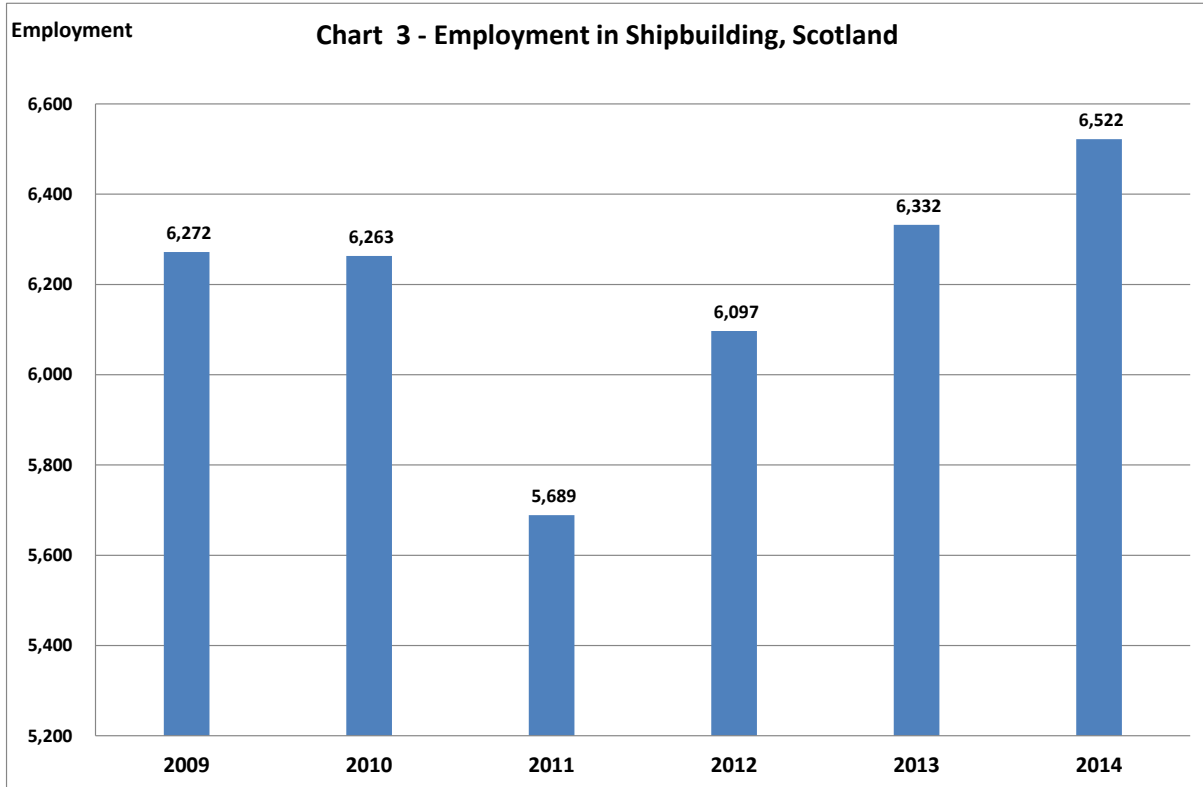
The Scottish Government includes two categories within its overall definition of shipbuilding, Shipbuilding itself (sector 30.11) and the repair and maintenance of ships and boats (sector 33.15, see Table 6). Shipbuilding accounts for the majority of employment in Scotland with around 87% of all jobs in sector 30.11⁸.

SIC sector	Title
30.11	Building of ships and floating structures
33.15	Repair and maintenance of ships and boats

Chart 3 below details employment in the overall shipbuilding sector in Scotland since 2009. The industry employed an average of 6,196 over the period and the picture shown is typically of growth in the number of jobs - employment in 2014 was 4% above the 2009 level. As we discuss further below, this is in contrast with employment in manufacturing as a whole.

While employment typically increased from 2009 the chart also demonstrates how the bulk nature of production and consequent periods of lack of orders can lead to substantial swings in the number of jobs. This feature clearly affected employment between 2010-12 when the industry is estimated to have lost over 500 jobs but added 400 the following year.

⁸ 2014 figures.



Despite yearly variations, the shipbuilding sector has outperformed Scottish manufacturing in employment terms over the period - perhaps the clearest example of this is that the number of jobs in shipbuilding increased by 4% over the period while the number of manufacturing jobs fell by 1%. Table 7 shows that shipbuilding has increased its proportion of manufacturing employment since 2009 - in 2014 it accounted for 1 in every 27 manufacturing jobs compared to 1 in every 29 in 2009.

	Shipbuilding	All Manufacturing	% in Shipbuilding
2009	6,272	188,003	3.3
2010	6,263	173,496	3.6
2011	5,689	179,190	3.2
2012	6,097	181,359	3.4
2013	6,332	173,122	3.7
2014	6,522	186,498	3.5

Pay in Shipbuilding

Table 8 below compares weekly pay rates in Scotland as a whole and in Scottish manufacturing in 2015. It also shows weekly pay in the “Other Transport Equipment” (OTE)

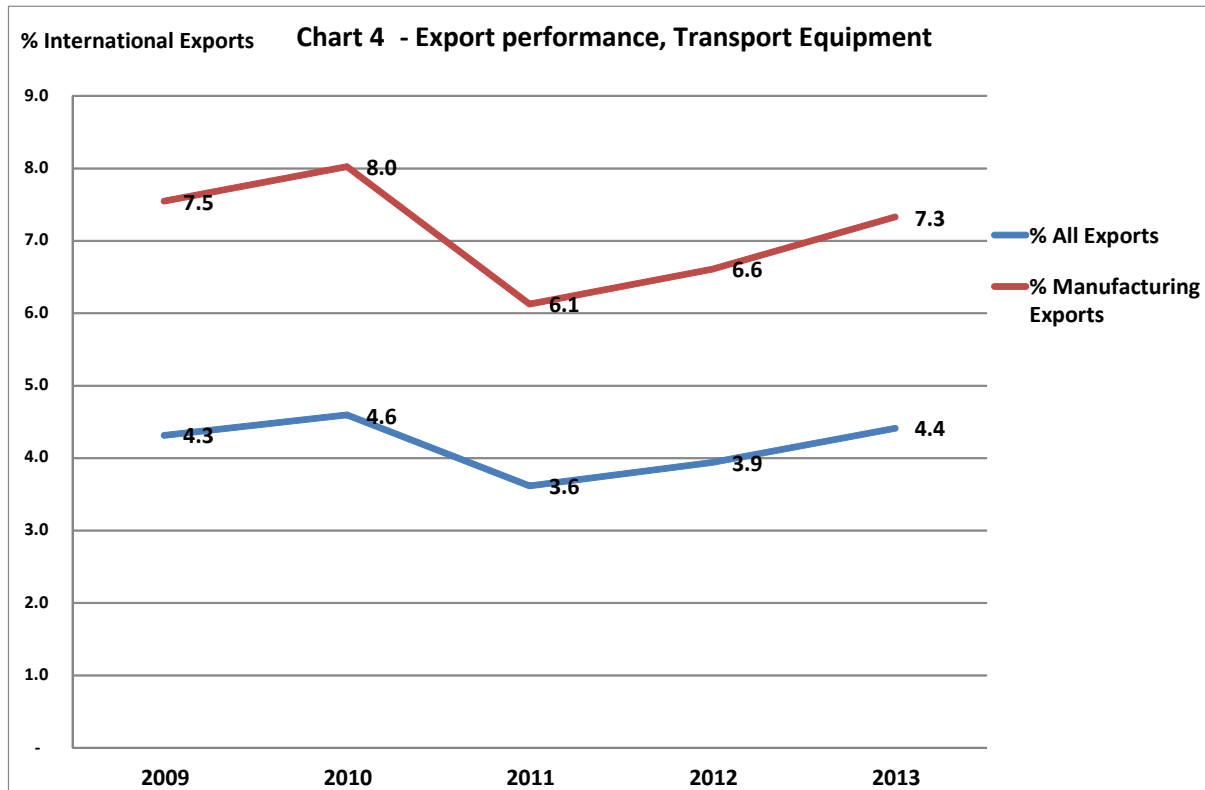
sector. Figures are only available at the level shown and we are not therefore able to report specific figures for Shipbuilding. However, shipbuilding accounted for 73% of all jobs in OTE in 2014⁹ and it is highly likely that the figures in Table 9 provide at least a reasonable indication of average wages in the industry. If so, they show that the average weekly in shipbuilding is more than 11.3% above that in the overall Manufacturing sector and almost one-third (33.1%) above the average weekly wage paid across all industries in Scotland.

All employment	491.5
Manufacturing	588.1
Other transport equipment	654.4

Exports

The Scottish Government only publishes export figures for the sector “Transport Equipment”. This includes Shipbuilding, but also includes other sectors, most notably aircraft manufacturing, so it is not possible to examine the separate export performance of shipbuilding itself. Chart 4 below shows the international export contribution of the wider Transport Equipment sector, which increased its contribution to both all exports and manufacturing exports. Transport Equipment sold an estimated £1.23 Billion foreign sales in 2013, and contributed 7.3% of manufacturing exports.

⁹ The other main sector was the manufacture of aircraft, which accounted for 23% of employment.



Economic Impact – Glasgow Shipbuilding¹⁰.

In this section, we estimate the economic impact of the shipbuilding sector in Glasgow. Figures provided by BAE Systems (BAE) show that the company currently has a total of 2,723 Full-Time Equivalent (FTE) employees at its Govan and Scotstoun yards in Glasgow¹¹. This is shown as the initial level of employment in Table 9.

BAE figures also show that the company currently employs 847 skilled production tradesmen and has 162 production apprentices currently undergoing 3-year apprenticeship training. Since 2011, it has trained a total of 228 people in production apprenticeship (3 years) and 67 people in Technical (Engineering/Project Management/Combat Systems) apprenticeships (4 years).

¹⁰ This represents 68.8% of all of the company’s UK jobs.

¹¹ As discussed in connection with the military estimates, the shipbuilding estimates do not include an estimate of the employment and wages created in Scotland supported by companies spending on suppliers in Scotland

The total number of jobs supported across Scotland has been estimated by using an employment multiplier published by the Scottish Government¹². Under this assumption, the total number of jobs supported is estimated at just under 6,000 (5,943), meaning that every 1 job in Glasgow supports an *additional* 1.18 jobs across Scotland.

Table 9 - Estimated Economic Impact (Scotland)	
BAE, Glasgow	
Initial Employment	2,723
Total Employment Supported	5,943
Initial Wages (£million)	92.7
Total Wages Supported (£million)	162.7

The initial amount of wages paid by the shipbuilding sector in Glasgow (£92.7 million) was estimated from the estimated annual wage paid to employees in the Transport Equipment sector in Scotland, which includes shipbuilding¹³. Total wages supported are estimated by using the Scottish Government wage multiplier, and are estimated to be £162.7 million.

Economic Impact – Fife Shipbuilding

Table 10 - Estimated Economic Impact (Scotland)	
Shipbuilding, Fife	
Initial Employment	1,773
Total Employment Supported	3,870
Initial Wages (£million)	60.3
Total Wages Supported (£million)	105.9

Table 10 above details the estimated impact of the shipbuilding sector in Fife. The employment figures (1,773 jobs) were provided by GMB Scotland and we have again used estimated annual wage paid to employees in the Transport Equipment sector in Scotland. In total, we estimate that the 1,773 shipbuilding jobs in sector in Fife support a total of 3,870 jobs and £105.9 M worth of wage payments across Scotland. Glasgow and Fife together are estimated to support 9,793 Scottish jobs and £ 268.1M of wages.

¹² . These are published in the Scottish Government’s Input Output Tables, available at <http://www.gov.scot/Topics/Statistics/Browse/Economy/Input-Output/Downloads>.

¹³ Wage data specific to shipbuilding in Glasgow was not available.

Employment at Faslane and Coulport

Table 11 - Estimated Economic Impact (Scotland) Defence Activities, Argyll & Bute	
Initial Employment	2,250
Total Employment Supported	4,911

We were only able to access employment data for the nuclear base at Faslane and Coulport. This was published in a Freedom of Information (FOI) request to the Ministry of Defence¹⁴ in 2014, which showed that a total of 2,250 non-military employees worked at Faslane. On the same basis as the two shipyard estimates shown in Tables 9 and 10 above, we estimate that the base supports a total of 4,911 jobs across Scotland.

¹⁴https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/359812/2014_04088_HMNB_Clyde_Redacted_Scanned_Reply.pdf.



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